ALL HANDS

MAGAZINE OF THE U.S. NAVY

OWNER'S AND OPERATOR'S MANUAL
JANUARY 1996

ALL HANDS

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Secretary of the Navy
John H. Dalton
Chief of Naval Operations
ADM Mike Boorda
All Hands Editor
Marie G. Johnston
All Hands Assistant Editor
JOC David M. Butts
Photo Editor
PH1 Dolores L. Anglin
Production
Leroy E. Jewell
Distribution
Garland Powell
Contributors
JO3 Jeremy Allen, John Batchelor, William E. Beamon, Nancy Bolle, JO1(AW) Laurie Butler, JO1(SW) Jim Conner, PH3 Sammy Dallal, JO2(AW) Michael R. Hart, DM3 Brian Hickerson, PH3 John Hudak, PH3 John Lemire, JO1 Ray Mooney, Patricia Oladeinde, PH2 Dewitt Roseborough, JO1 Ron Schafer, JO2(AW) Alida Toler, PH2 Nancy Velez

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E-mail: pubs@media.mediacen.navy.mil

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Commanding Officer, NR-OI Det. 206
CAPT Sterling Nichols Jr.
Contributing Staff
LCDR Doug Smith
JOC(AW) Terie Hynish
JO3 Ray Sarracino

Cover design by JO3 Ray Sarracino

Welcome to the 1996 Edition

The Navy, like the sea, is fluid and ever-changing. And, also like the sea, the Navy is a constant and undeniable force. As Sailors, you represent that force and you experience first hand the changes and challenges of such a dynamic organization.

In 1996, we face a new, exciting year, with a promise of further changes in our structure, roles and responsibilities. Despite this evolutionary environment, the core of our Navy remains unchanged: Our reach is global, our goal is peace and our strategy is to put the right mix of assets in the right place right now.

To keep you informed and prepared, *All Hands* publishes the annual Owners' and Operators' Manual – a single source for facts, figures and important information about the Navy.

Inside these pages you will find drawings, photographs and descriptions of our most sophisticated weapons systems, top-flight aircraft and powerful ships and subs. And, most importantly, you will find a snapshot, in words and pictures, of the most dominant element in our arsenal: you, the American Sailor. ⚓

U.S. NAVY OWNER'S AND OPERATOR'S MANUAL

Forward ... from the sea

Today, more than any other time in our nation's history, there is a need for joint warfighting and peacekeeping capabilities that can be launched from the sea. In this world's rapidly changing global security environment, there is one enduring reality: the United States is a maritime nation that will always find value in a forward-deployable and self-sustainable global force to project power and protect our national interests.

From Haiti to the Adriatic, from the Middle East to the Pacific Rim, the world faces sweeping changes. America will continue to need a Navy that can go anywhere, fight if it has to and win. That is our tradition, and it is the professional men and women of our force who have sailed in harm's way to carry on that tradition so magnificently, who have served selflessly in their communities, providing strength and leadership at home as well as at sea, that stand as an inspiration to a nation looking for heroes.

I am extremely confident in the abilities of the Navy and Marine Corps as America looks to our team to maintain peace and prosperity and to defend her interests around the globe.

— John H. Dalton
Secretary of the Navy

U.S. NAVY OWNER'S AND OPERATOR'S MANUAL

Rudder Orders

These guiding principles are the foundation upon which the entire Navy operates:

- ❖ People are the Navy's most valuable asset.
- ❖ The Navy must attract top quality individuals.
- ❖ We encourage our people to make the Navy a career.
- ❖ We provide frequent recognition to deserving individuals and units.
- ❖ Our goal is to promote people to the highest grade or rank according to their abilities.
- ❖ We make duty assignments based on both the needs of the Navy and the needs of the individual.
- ❖ Some personal hardships may require reassignment or discharge from naval service.
- ❖ We provide leave for every member, liberty time away from work, all benefits allowed by law and seek to keep pace with changing economic conditions.
- ❖ Training and education are vitally important.
- ❖ We value and depend on professional input and ideas from all our people.
- ❖ We do not tolerate discrimination, any form of sexual harassment, fraternization, or the illegal or improper use of drugs or alcohol.
- ❖ We provide timely, constructive written evaluations of performance.
- ❖ We strive to provide high quality, attractive, modern facilities for our people.
- ❖ We are committed to the safety of our people.
- ❖ We are accountable to standards of conduct, federal statutes and regulations.
- ❖ We look after the individual needs of our people.

U.S. NAVY OWNER'S AND OPERATOR'S MANUAL

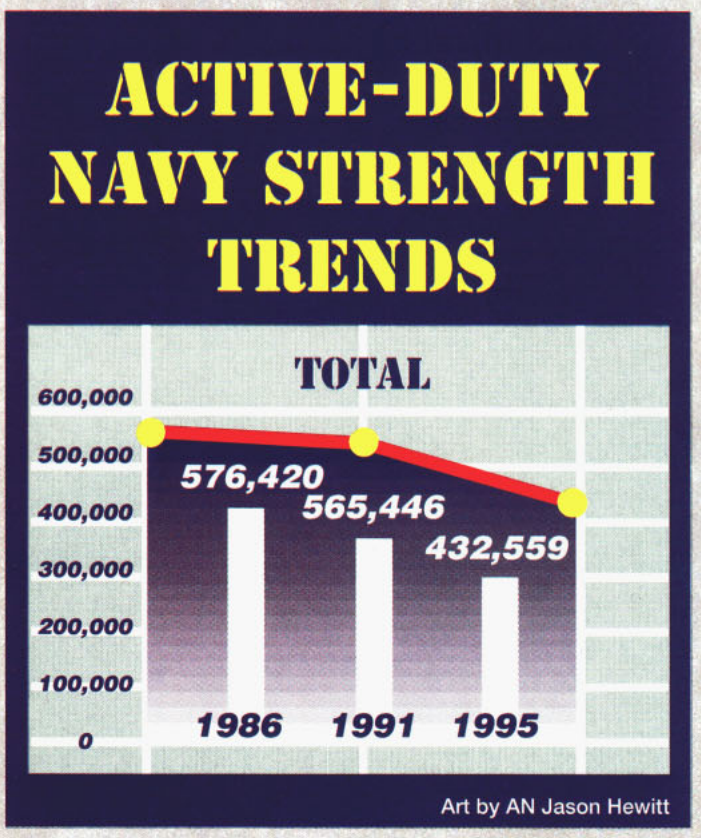
Right mix

Photo by PH1(SW) Mike Parsell

Presence

Peacetime forward presence is a growing mission for the Navy-Marine Corps Team. During 1995, our forces operated Forward ... from the sea in support of worldwide U.S. national interests and objectives. These operations ranged from precision bombing strikes in Bosnia, to the rescue of a downed U.S. pilot in that same country, to supporting the U.N. pullout from Somalia. This offers positive proof that naval forces operating Forward ... from the sea are increasingly important to national security.

Forward ... from the sea will remain our keystone strategic document for 1996. We will continue to reaffirm the Navy's contributions to America's security in five main areas: the strategic imperative; peacetime forward presence; crisis response; regional conflict; and joint and combined operations. Our most recent experiences underscore the premise that the most important role of naval force — our Navy and Marine Corps team — is to be engaged forward with a view to prevent conflicts and controlling crises. Naval forces remain the foundation of peacetime forward presence and overseas response to crises. Our Navy and Marine Corps forces contribute heavily during transitions from crisis to conflict and ensure compliance with the "terms of peace."



Right place

The strategic imperative

Our vital economic and security interests are dispersed around the globe. Because we are a maritime nation our strategy is necessarily a transoceanic one. Deployed naval forces will provide the critical operational links between peacetime operations and the requirements of a developing crisis or major regional contingency.

Peacetime forward presence

With more limited access to forward bases, naval forces are an increasingly indispensable and unique instrument of American foreign policy. In peacetime, naval forces build interoperability with friendly and allied forces to participate fully as part of a multinational response or as part of "ad hoc" coalitions forged to respond to short-notice crisis situations.

Right now

The building blocks of our presence remain carrier battle groups with versatile, multipurpose naval tactical aviation wings and amphibious ready group with embarked special operations-capable Marine expeditionary units. Forward-deployed surface combatants with theater ballistic missile defense capabilities discourage proliferation of ballistic missiles and extend credible defenses to friendly and allied countries. The Navy has shifted its emphasis to forward presence and power projections from sea to land, but continues to maintain fleet ballistic missile submarines at sea.

Crisis response

Naval forces are designed to fight and win wars. Forces deployed for routine exercises and activities associated with forward presence are also the forces most likely to be called upon to respond rapidly to an emerging crisis. The sovereign quality of naval forces operating from highly mobile "sea bases" in forward areas allows flexibility. Naval forces are uniquely positioned, configured and trained to provide a variety of responses in the event of fast-breaking international crises.

Regional conflict

Naval forces make a critical contribution in a major regional contingency throughout the entire operation. Focusing on the littoral area, the Navy and Marine Corps force can seize and defend advance bases, such as ports and airfields to enable the flow of land-based air and ground forces, while also providing a robust fighting force through the end of any joint campaign. Marine air and ground units, placed ashore initially as an enabling force, have fought and contributed decisively. Naval tactical aviation has made pivotal contributions. Sealift is the key to force sustainment.

Joint and combined operations

The enhanced combat power produced by the integration of all supporting arms, which we seek to attain through joint operations, is inherent in naval expeditionary forces. Combining the capabilities and resources of other services and those of our allies will yield decisive military power.

Maintaining Our New Direction

We remain committed to structuring our expeditionary forces so they are shaped for joint operations, with the emphasis on operations Forward ... from the sea tailored for national needs.

Forward ... from the sea is a living document that will remain valid well into the 21st century. It provides us with a sound strategic foundation upon which we will build the dynamic new operational concepts of tomorrow's Navy.

Anytime, anywhere, because we're already there

When a crisis erupts, Sailors and Marines are always nearby. In today's environment where the military can execute a wide variety of missions – from full-scale power projection to regional conflict resolution, humanitarian relief and operations other than war – the Navy-Marine Corps team is the answer.

It's no coincidence that in times of crisis the first question the president asks is, "Where's the nearest carrier?" Aircraft carriers are a flexible and forward presence. A Navy ship is sovereign U.S. territory that can move offshore anytime, anywhere and kick the door down if needed. We are able to be on scene first and provide America's leadership with a flexible response package that can be tailored instantly to any mission. We can answer the bell first because we are deployed around the world.

Sailors and Marines – Citizens first, second to none

The men and women who are members of our Navy and Marine Corps are the very best America has to offer. They're not just members of the military. They're an important part of the local community, too. Our

people are school tutors, camp counselors, mentors, scout leaders, sports coaches, neighborhood watch leaders, good samaritans and they provide a host of other critically needed volunteer skills in their community. Every single command has people who freely give of themselves to help others.

We protect the environment – We live here, too

In today's Navy, caring for the environment is an operational necessity. We are dedicated to environmental issues because it is the right thing to do. This dedication also allows us to complete our mission more effectively. Look around and you'll find the Navy is a recognized leader in environmental engineering, restoration compliance and hazard abatement. Every day is Earth Day in the Navy. Meet with the nearest Navy environmental expert and ask him or her about the job – you'll find a gold mine of good news.

U. S. Navy — Right Mix, Right Place, Right Now

One phrase pulls together the essence of today's Navy – outstanding people, forward presence and responsible stewardship of the public's trust.

"Right mix" refers to our ability to provide America's leaders with a tailored response package for any tasking. It is a direct result of our balanced emphasis on operational readiness, training and morale. It also means we have the right variety of operational forces distributed across all warfare areas.

In terms of people, "right mix" also means a racially and gender-diverse group of people who are confident the Navy leadership has their best interest at heart. This right mix of people has a balanced outlook to accomplish the operational mission and act as responsible stewards of everything the American public entrusts to them.

"Right place" refers to our Navy being on-station around the globe, 24-hours-a-day, every day. Our policy of routine deployments provides year-round flexible deterrence and an instantly visible U.S. presence.

"Right now" means we are "ready to answer all the bells." Our equipment is well-maintained, our people are highly trained and ready for instantaneous response and our forces are positioned where they need to be. Today's Navy is ready on arrival!

Photo by PH1 (AW) Gary L. Reinhart

Photo by EM2 Danilo M. Cortez

America's Navy — quality at work

Every dollar spent on the Navy is a dollar spent in the interest of America. We invest it wisely. In today's world the Navy-Marine Corps team is ready to act at a moment's notice. We can bring relief and compassion, diplomacy and presence, or force and resolve. We train the way we fight and we prepare so that when our leaders must act, the Navy provides the options. We are ready, efficient, motivated, cost effective and capable which is exactly what our citizens pay us to be. ⚓

U.S. Navy – Right Mix, Right Place, Right Now.

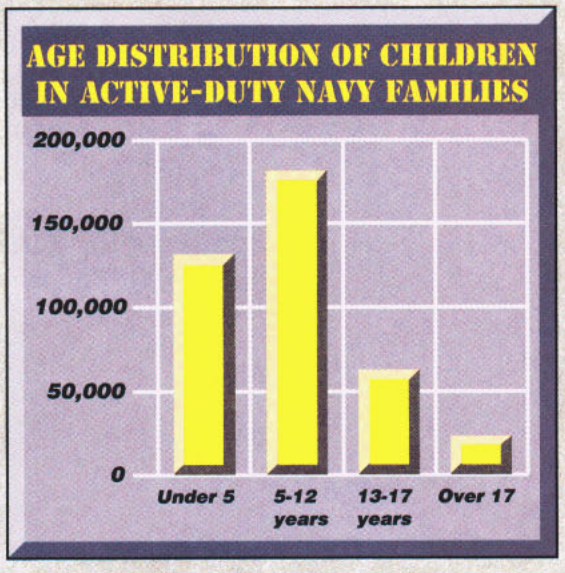
Our People

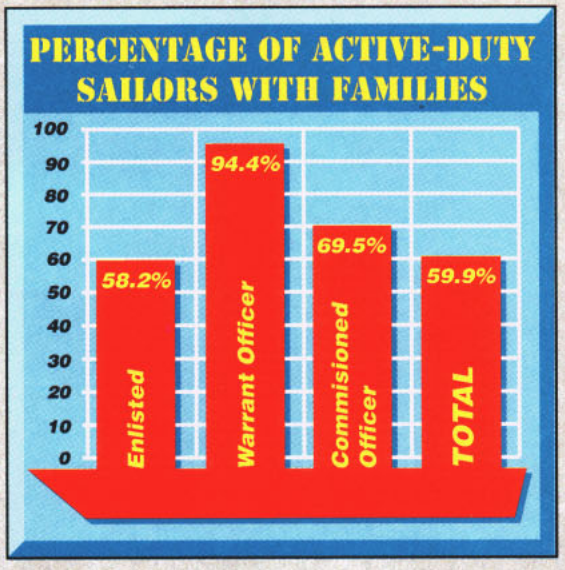
The U.S. Navy is home to more than 430,000 Sailors who proudly serve at sea, overseas and ashore. These Sailors reflect the diversity, strength and quality of our nation. The following pages depict more than just facts and figures. They are a snapshot of our Sailors, who they are, what they do and where they're from.

ALL HANDS Factoid

QUALITY OF LIFE

The 1996 Defense Appropriations Bill contains $11.2 billion in military construction funds for housing and child-care projects.





U.S. Navy photo

Minorities in the Navy

African-American Enlisted	18.39%
Hispanic Enlisted	7.37%
Other Enlisted	6.11%
Caucasian Enlisted	68.13%
African-American Officers	5.33%
Hispanic Officers	3.13%
Other Officers	4.61%
Caucasian Officers	86.93%

ALL HANDS Factoid

"THE FUTURE IS NOW"

15% of 1996 NROTC applicants are minorities.*

* At time of printing

U.S. Navy photo

Navy Geographic Population Distribution

Top 10 states with the highest number of active-duty Navy personnel and family members

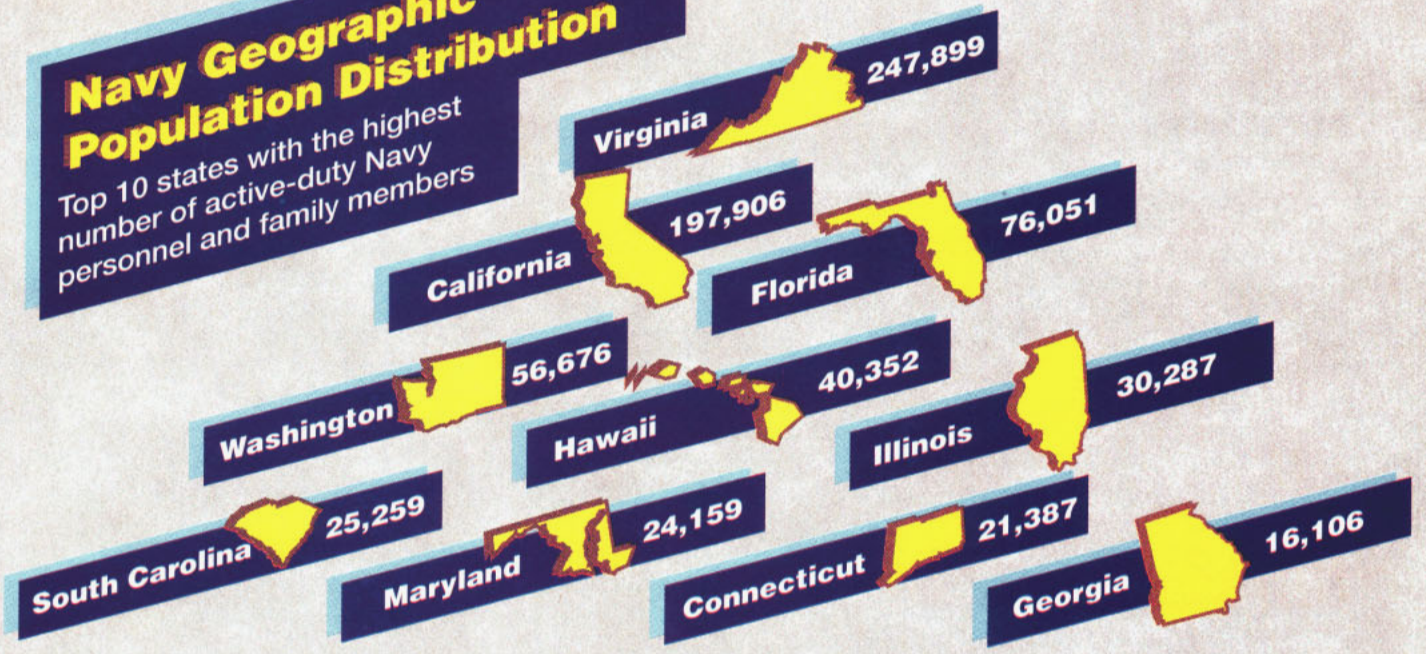


Photo by Scott D. Halford

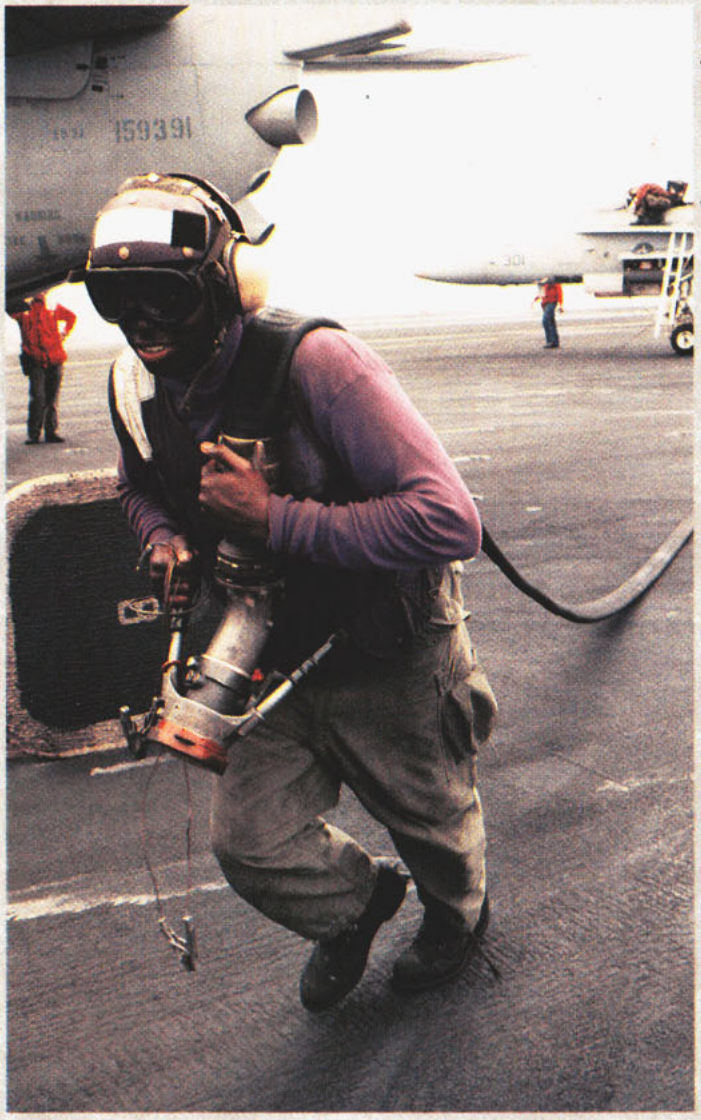
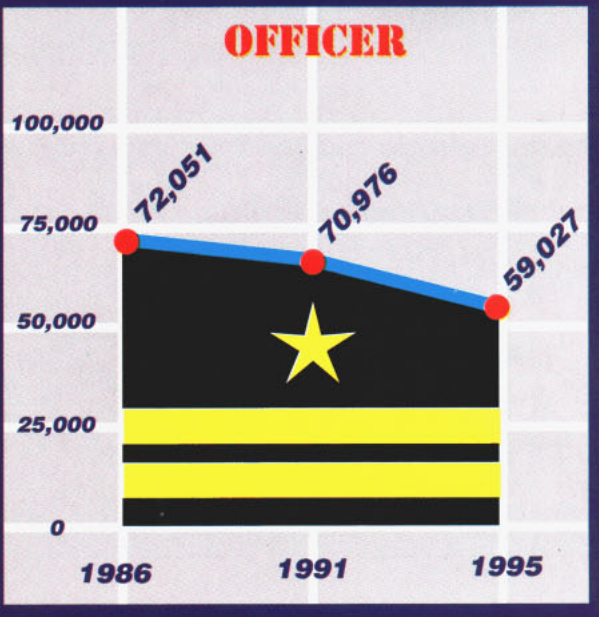
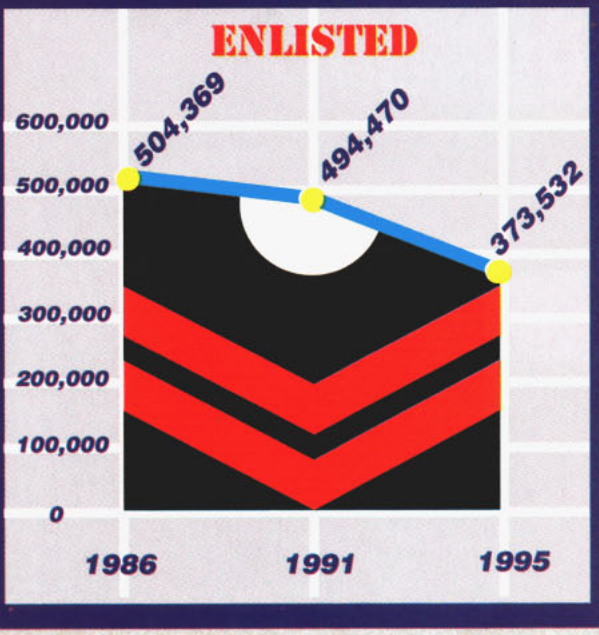


Photo by PH1 Robert McRoy

ACTIVE-DUTY NAVY STRENGTH TRENDS





Active-duty End Strength

	Army	Navy	Marines	Air Force	Total
Officer	84,974	60,283	17,992	79,800	243,049
Enlisted	436,899	377,894	154,306	324,645	1,293,744
Total	521,873	438,177	172,298	404,445	1,536,793

ALL HANDS Factoid

PHONE HOME

While deployed in support of operations in Bosnia, Sailors on board the aircraft carrier USS GEORGE WASHINGTON (CVN-73) spent $569,940 for 28,497 phone cards to call home.

Photo by SrA Tara R. Hamilton

U. S. Navy photo

ALL HANDS Factoid

BIG BLADE

A single propeller on a NIMITZ-class aircraft carrier weighs 69,300 pounds and is 22 feet high.

U. S. Navy photo

Reserve Military Totals

Army Guard
386,092

Navy Reserve
271,681

Air Reserve
162,385

Total
1,664,168

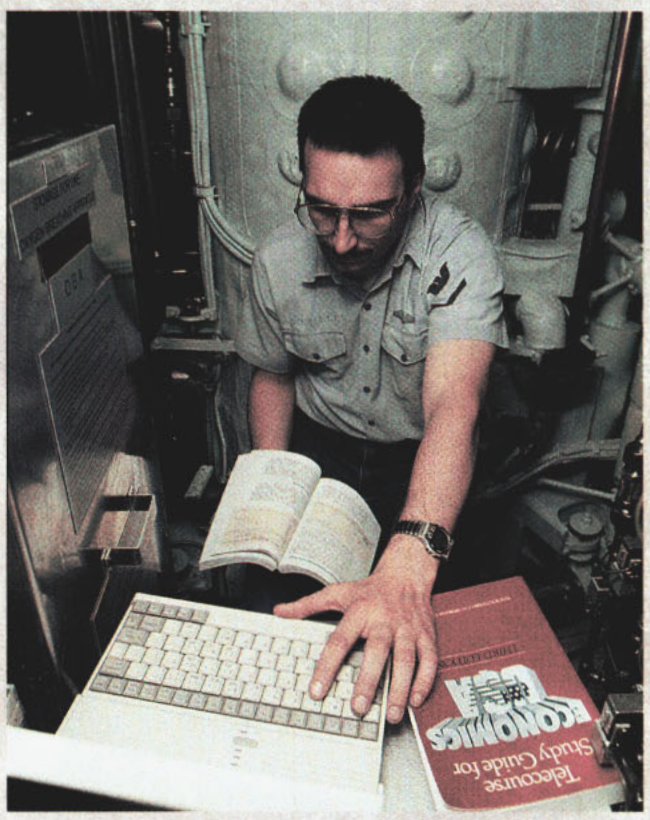
Army Reserve
630,507

USMC Reserve
102,681

Air Guard
110,822

Hitting the books

Getting your education is a vital part of your Navy career



Higher education is vital to every Sailor's career. The Navy provides numerous programs to help Sailors achieve their educational goals, whether it's earning a journeyman certificate or a college degree.

Sailors benefit from fulfilling educational goals because it increases their promotion potential in the Navy, as well as prepares them for a smoother transition into a career outside the service.

The Navy's goal is making education accessible to all Sailors through a variety of programs. Your Navy Campus specialist has details on these programs.

Tuition Assistance (TA)

TA is available to all active-duty Sailors. The Navy pays 75 percent of all tuition costs for all officers and enlisted, subject to some constraints.

Service member Opportunity Colleges, Navy (SOCNAV)

SOCNAV is a consortium of 700 colleges and universities that have agreed to reasonable transfer of credit and limited residency requirements for military students.

Sailors can work toward a degree through a SOCNAV-2 or SOCNAV-4 college, no matter where they are located, and not have to worry about their credits transferring.

Program for Afloat College Education (PACE)

PACE makes it possible for personnel at sea or at remote locations to go to college.

The PACE II program has been developed because some ships and all submarines cannot accommodate a civilian instructor. Through the PACE II program, courses are delivered electronically through an interactive microcomputer.

Broadened Opportunity for Officer Selection and Training (BOOST)

BOOST is a college prep program that helps enlisted selectees improve their academic skills to pursue a baccalaureate degree and a commission through NROTC or the Naval Academy.

Contact your career counselor and check OPNAVNOTE 1500 or write the BOOST program manager at Chief of Naval Education and Training, NAS Pensacola, Fla. 32508-5100 for additional information.

Enlisted Education Advancement Program (EEAP)

EEAP offers career-motivated Sailors the opportunity to pursue a course of study at any accredited college or university.

EEAP allows Sailors to complete their associate or baccalaureate degree requirements, and receive full pay and allowances (less proficiency pay), but must pay all costs for tuition, books and other fees themselves. Selectees incur six years of obligated service.

OPNAVNOTE 1510 has further details on EEAP.

Enlisted Commissioning Program (ECP)

ECP provides active-duty Sailors and naval reservists who have previously earned college credit an opportunity to earn a regular commission.

Interested persons should see their career counselor and check OPNAVNOTE 1530 or contact the Enlisted Commissioning Program Manager, Chief of Naval Education and Training, NAS Pensacola, Fla. 32508-5100 for additional information. ⚓

TRICARE joins the Navy family

Rapidly rising health care costs and the closure of military bases and their hospitals has made the military look for new ways to provide health care benefits. TRICARE is the DOD response to this challenge.

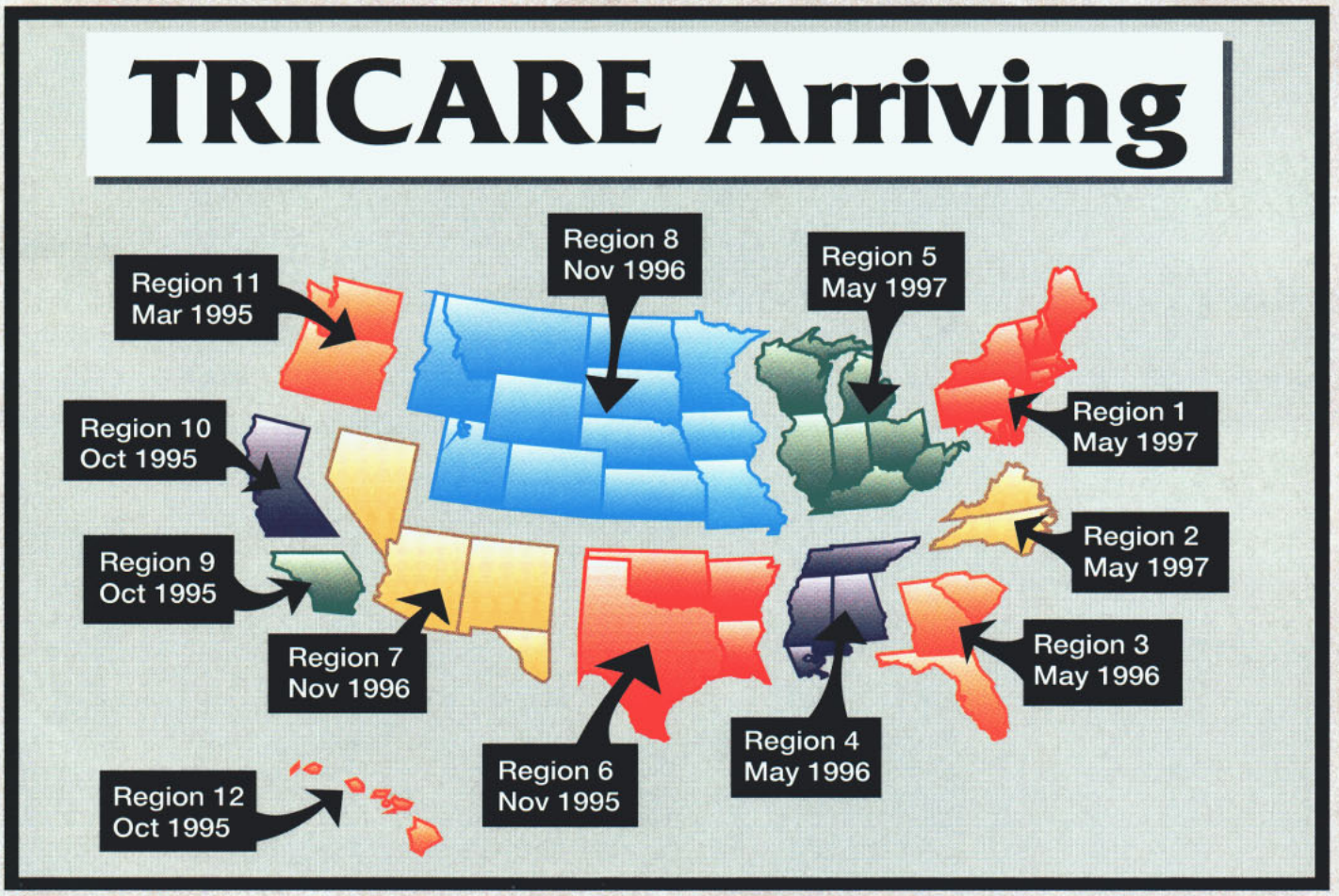
TRICARE is a health care program for active-duty, retired and family members of all military services. It provides high-quality, accessible care; controls health costs for patients and improves medical readiness.

The program is managed by the military and uses civilian contractors. For each of the 12 regions of the country, a military lead agent will oversee the program. Lead agents are the commanders of large regional Navy, Army and Air Force medical centers.

Begun in March 1995 in Oregon and Washington State, TRICARE is now expanding by region. It is expected to be in place throughout the United States by May 1997. ⚓

TRICARE Enrollment Options and Cost Shares for Active-duty Family Members

	TRICARE Prime E-1 to E-4	TRICARE Prime E-5 and above	TRICARE Extra	TRICARE Standard (Standard CHAMPUS)
Annual deductible	$0	$0	$150 individual/ $300 family	$150 individual/ $300 family
Civilian outpatient visit	$6	$12	15 percent of negotiated fee	20 percent of allowable charge
Civilian inpatient care	$11 per day ($25 minimum)	$11 per day ($25 minimum)	Greater of $25 or $9.70 per day	Greater of $25 or $9.70 per day




LOCATIONS OF MAJOR WESTERN HEMISPHERE COMMANDS
1 -- Puget Sound, Wash.
2 -- San Fransisco
3 -- Long Beach, Calif.
4 -- San Diego
5 -- Pearl Harbor
6 -- Ingleside, Texas
7 -- Pensacola, Fla.
8 -- Memphis/Millington, Tenn.
9 -- Great Lakes,Ill.
10 -- Newport, R.I.
11 -- New London, Ct.
12 -- Philadelphia
13 -- Washington, D.C.
14 -- Norfolk
15 -- Charleston, S.C.
16 -- Kings Bay, Ga
17 -- Jacksonville, Fla.
18 -- Orlando, Fla.
19 -- Guantanamo Bay, Cuba
20 -- Roosevelt Roads, Puerto Rico
FLEET COMMAND AND CONTROL
21 -- Commander-in-Chief U.S. Naval Forces Europe
22 -- U.S. 6th Fleet, Mediterranean Home port - Gaeta, Italy
23 -- U.S. Naval Forces Central Command -- Red Sea, Persian Gulf and North Arabian Sea Manama, Bahrain
24 -- U.S. 7th Fleet, Western Pacific, Indian Ocean - Forward Deployed to Yokosuka, Japan
25 -- Commander-in-Chief U.S. Pacific Fleet - Pearl Harbor
26 -- U.S. 3rd Fleet, Eastern Pacific Home port - San Diego
27 -- Commander-in-Chief U.S. Atlantic Fleet Norfolk U.S. 2nd Fleet, Atlantic Ocean Home port - Norfolk
MAJOR EUROPEAN COMMANDS
28 -- U.S. Naval Activities, United Kingdom
29 -- Naval Support Activity; Commander, Fleet Air Mediterranean Naples, Italy
30 -- Naval Station Rota, Spain
31 -- Naval Air Station Sigonella, Sicily
32 -- Naval Support Activity La Maddalena, Sardinia, Italy
33 -- Naval Support Activity Souda Bay, Crete
34 -- Fleet Air Keflavik/ Naval Air Station Keflavik, Iceland


NAVAL RESERVE COMMAND LOCATIONS
Pacific Coast Naval Reserve Force (NRF) Home port:
San Diego
Atlantic Coast Naval Reserve Force (NRF) Home ports:
Norfolk
Ingleside, Texas
Pascagoula, Miss
Mayport, Fla
Director of Naval Reserve
ComNavResFor HQ
Naval Reserve Air Base Sites
Readiness Command Sites
Reserve Centers - 170
Seabees:
2 Bridgades
8 Regiments
12 Battalions
MAJOR WESTERN PACIFIC COMMANDS
35 -- U.S. Naval Forces, Korea
Fleet Activities, Chinhae, Korea
36 -- Naval Air Facility, Misawa, Japan
37 -- Naval Air Facility, Atsugi, Japan
38 -- U.S. Fleet Activities, Yokosuka, Japan
39 -- U.S. Fleet Activities, Sasebo, Japan
40 -- U.S. Fleet Activities, Okinawa, Japan
41 -- U.S. Naval Forces Marianas, Guam
Naval Air Station Agana
Naval Air Station Guam
42 -- U.S. Naval Logistics Group,
Western Pacific - Singapore
43 -- Naval Support Facility, Diego Garcia
UNIFIED COMMANDS
44 -- U.S. European Command, Stuttgart-Vaihingen, Germany
45 -- U.S. Pacific Command, Honolulu
46 -- U.S. Atlantic Command, Norfolk
47 -- U.S. Southern Command, Quarry Heights,
Republic of Panama
48 -- U.S. Central Command, MacDill AFB, Fla.
49 -- U.S. Space Command, Peterson AFB, Colo.
50 -- U.S. Transportation Command, Scott AFB, Ill.
51 -- U.S. Special Operations Command, MacDill AFB, Fla.
52 -- U.S. Strategic Command, Offutt AFB, Neb.

FLEET REORGANIZATION

To economize training, provide squadron integrity, and most importantly, reduce the workload on Sailors at sea, the Navy has made wholesale changes to the way its surface forces organize, train and deploy.

Pacific Fleet battle groups

CRUDESGRU 1	—	*Constellation, Chosin, Lake Erie*
CRUDESGRU 3	—	*Carl Vinson, Shiloh, California, Arkansas*
CRUDESGRU 5	—	*Kitty Hawk, Antietam, Cowpens*
CARGRU 3	—	*Abraham Lincoln, Princeton, Chancellorsville*
CARGRU 5	—	*Independence, Bunker Hill, Mobile Bay*
CARGRU 7	—	*Nimitz, Lake Champlain, Port Royal*

Seven destroyer squadrons will rotate among battle groups.

A regional support organization will be established to cover administrative and readiness support for ships not deploying as part of a core battle group.

oil painting by Edward Moran.

fine tuning our fighting force ...

Both Atlantic and Pacific Fleets have reorganized to create more permanency for carrier battle groups. Carriers, air wings and cruisers will be permanently teamed with destroyer squadrons rotating in support assignments.

Atlantic Fleet battle groups

CRUDESGRU 2 — *George Washington, South Carolina, Normandy*
CRUDESGRU 8 — *Dwight D. Eisenhower, Anzio, Cape St. George*
CRUDESGRU 12 — *Enterprise, Gettysburg, Philippine Sea*
CARGRU 2 — *John C. Stennis, San Jacinto, Monterey*
CARGRU 6 — *John F. Kennedy, Hue City, Vicksburg, Thomas S. Gates*
CARGRU 8 — *Theodore Roosevelt, Leyte Gulf, Vella Gulf, Mississippi*

Nine destroyer squadrons will rotate among battle groups.

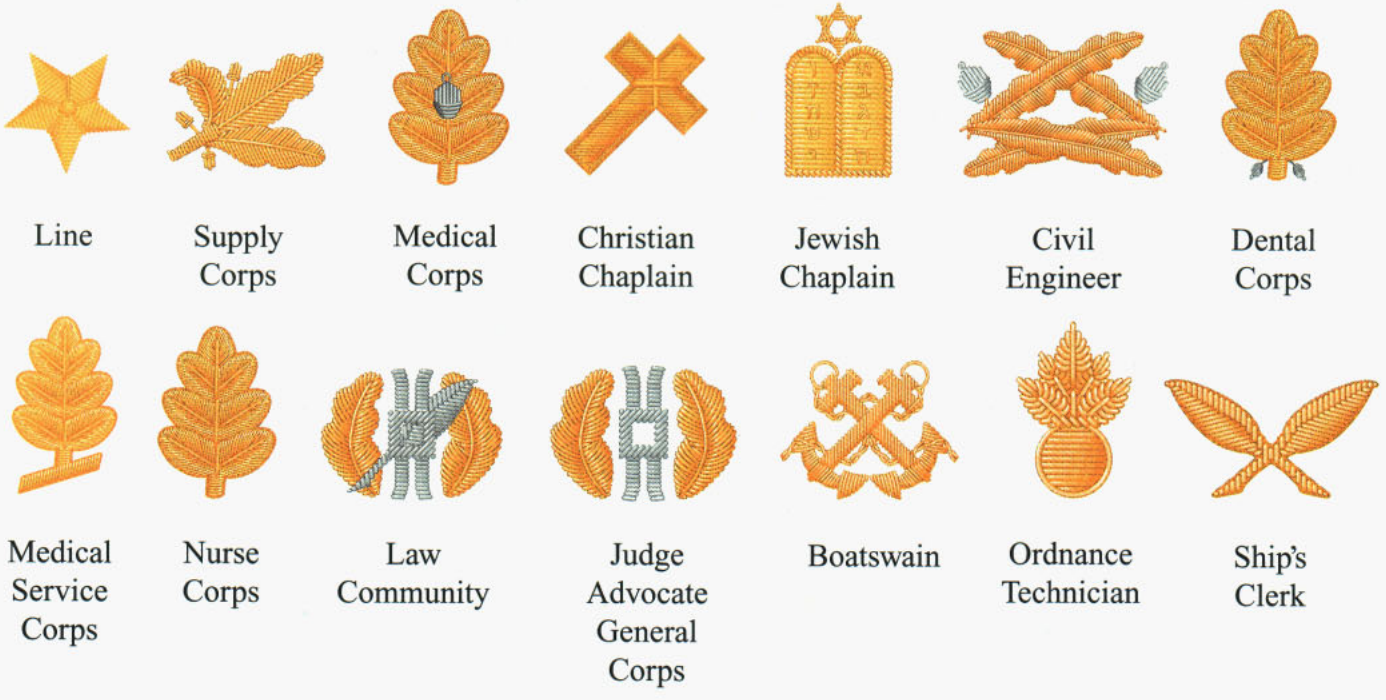
Realignment of existing shore commands and operational staffs is designed to streamline support, training and readiness.

The Western Hemisphere Group was established to support operations in the Caribbean and South America. Sixteen ships (CGs, DDGs, DDs, FFGs) will be assigned.

Rank Insignia of Navy Commissioned Officers

Paygrade/Rank		Caps, shoulder, collar	Shoulder boards	Sleeve
O-1	Ensign	gold		
O-2	Lieutenant Junior Grade	silver		
O-3	Lieutenant	silver		
O-4	Lieutenant Commander	gold		
O-5	Commander	silver		
O-6	Captain	silver		
O-7	Rear Admiral (Lower Half)	silver		
O-8	Rear Admiral (Upper Half)	silver		
O-9	Vice Admiral	silver		
O-10	Admiral	silver		
O-11	Fleet Admiral	silver		

Line / Staff / Warrant Officer Corps Devices



Rank Insignia of Navy Warrant Officers

Paygrade/Rank	Caps, shoulder, collar	Shoulder boards	Sleeve
W-1 Chief Warrant Officer			
W-2 Chief Warrant Officer			
W-3 Chief Warrant Officer			
W-4 Chief Warrant Officer			

Rank Insignia of Navy Enlisted

Paygrade/Rank	Hat and collar	Sleeve
E-1 Seaman Recruit		
E-2 Seaman Apprentice		
E-3 Seaman		
E-4 Petty Officer Third Class		
E-5 Petty Officer Second Class		
E-6 Petty Officer First Class		
E-7 Chief Petty Officer		
E-8 Senior Chief Petty Officer		
E-9 Master Chief Petty Officer		
E-9 Master Chief Petty Officer Of The Navy		

Line / Staff / Warrant Officer Corps Devices

Cryptologic Technician

Engineering/ Nuclear Power Technician

Repair Technician

Security Technician

Data Processing Technician

Diving Officer

Air Traffic Control Technician

Aerographer

Aviation Boatswain

Aviation Electronics Technician

Aviation Ordnance Technician

Navy Enlisted Ratings

General Seamanship

BM
Boatswain's Mate

SM
Signalman

Ships Operations

OS
Operations Specialist

QM
Quartermaster

Marine Engineering

BT
Boiler Technician

EM
Electrician's Mate

EN
Engineman

GS
Gas Turbine System Technician
(used at pay grade E-9 only)
GSE (Electrical)
GSM (Mechanical)

IC
Interior Communications Electrician

MM
Machinist's Mate

Ship's Maintenance

HT
Hull Maintenance Technician

IM
Instrumentman

MR
Machinery Repairman

ML
Molder

OM
Opticalman

PM
Patternmaker

DC
Damage Controlman

Aviation Maintenance/ Weapons

PR
Aircrew Survival Equipmentman

AE
Aviation Electrician's Mate

AT
Aviation Electronics Technician

AD
Aviation Machinist's Mate

AZ
Aviation Maintenance Administrationman

AO
Aviation Ordnanceman

AM
Aviation Structural Mechanic
(used at paygrade E-8 only)
AME (Safety Equipment)
AMH (Hydraulics)
AMS (Structures)

Aviation Ground Support

AB
Aviation Boatswain's Mate
(used at pay grade E-9 only)
ABE (Launching and Recovery Equipment)
ABF (Fuels)
ABH (Aircraft Handling)

AS
Aviation Support Equipment Technician

Air Traffic Control

AC
Air Traffic Controller

Weapons Control

ET
Electronics Technician

FC
Fire Controlman

FT
Fire Control Technician

Ordnance Systems

GM
Gunner's Mate
(used at pay grade E-7 and above)
GMG (Guns)
GMM (Missiles)

MN
Mineman

MT
Missile Technician

TM
Torpedoman's Mate

WT
Weapons Technician

Sensor Operations

EW
Electronics Warfare Technician

OT
Ocean Systems Technician
(used at paygrade E-9 only)
OTA (Analyst)
OTM (Maintainer)

ST
Sonar Technician
STG (Surface)
STS (Submarine)

Data Systems

DP
Data Processing Technician

DS
Data Systems Technician

Construction

BU
Builder
(becomes CUCM at pay grade E-9)

CE
Construction Electrician
(becomes UCCM at pay grade E-9)

CM
Construction Mechanic
(becomes EQCM at pay grade E-9)

EA
Engineering Aide
(becomes CUCM at pay grade E-9)

EO
Equipment Operator
(becomes EQCM at pay grade E-9)

SW
Steelworker
(becomes CUCM at pay grade E-9)

UT
Utilitiesman
(becomes UCCM at pay grade E-9)

Health Care

DT
Dental Technician

HM
Hospital Corpsman

Administration

LN
Legalman

NC
Navy Counselor

PN
Personnelman

PC
Postal Clerk

YN
Yeoman

RP
Religious Program Specialist

Logistics

AK
Aviation Storekeeper

DK
Disbursing Clerk

MS
Mess Management Specialist

SH
Ship's Serviceman

SK
Storekeeper

Media

DM
Illustrator Draftsman

JO
Journalist

LI
Lithographer

PH
Photographer's Mate

Musician

MU
Musician

Master-at-Arms

MA
Master-at-Arms

Cryptology

CT
Cryptologic Technician
CTA (Administrative)
CTI (Interpretive)
CTM (Maintenance)
CTO (Communications)
CTR (Collection)
CTT (Technical)

Communications

RM
Radioman

Intelligence

IS
Intelligence Specialist

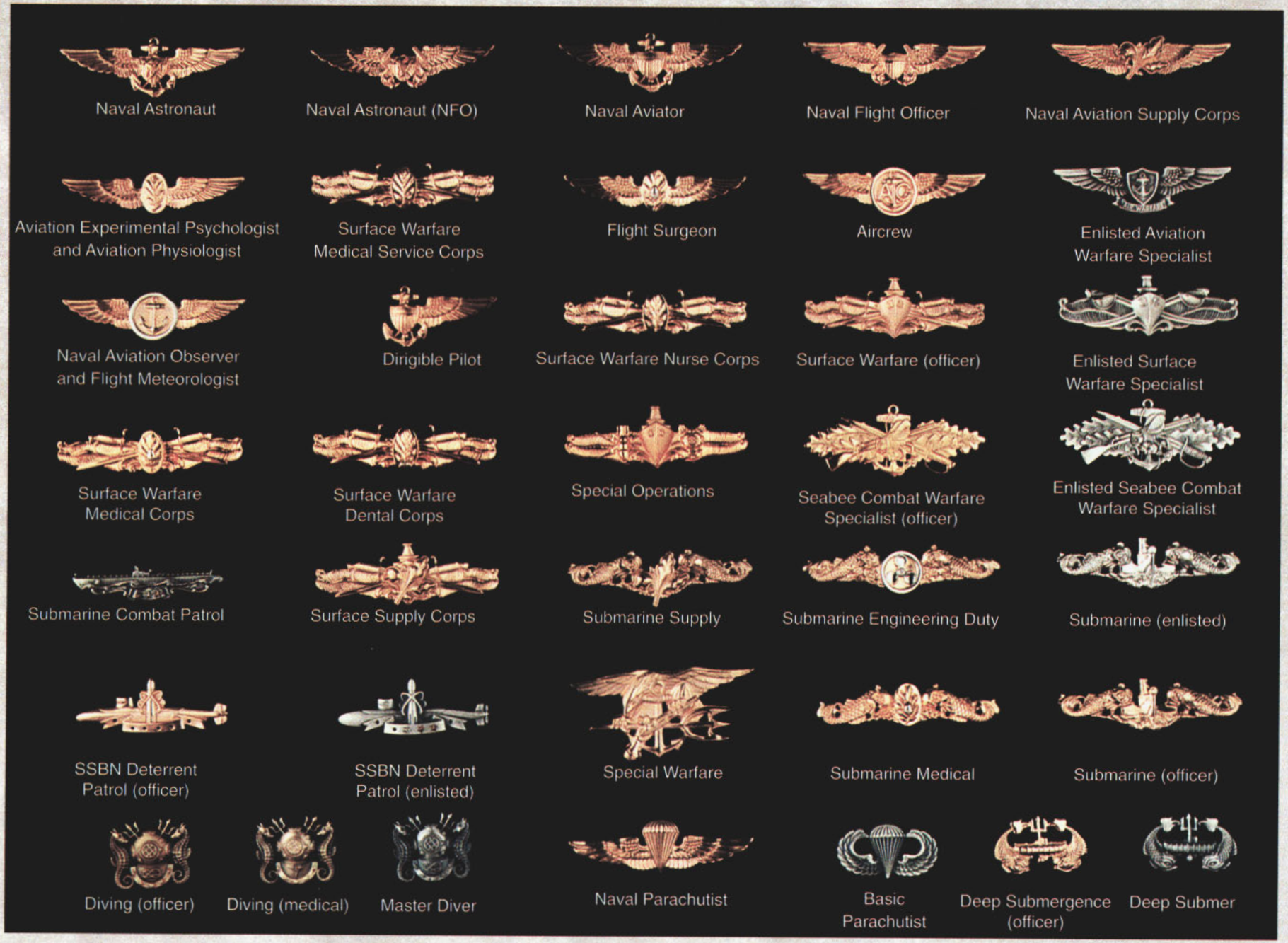
Meteorology

AG
Aerographer's Mate

Aviation Sensor Operations

AW
Aviation Systems Warfare Operator

Warfare pins



SPECIAL PULLOUT

ALL HANDS FY96 Monthly Basic Pay Chart*

Cumulative Years of Service

Pay Grade	Under 2	Over 2	Over 3	Over 4	Over 6	Over 8	Over 10	Over 12	Over 14	Over 16	Over 18	Over 20	Over 22	Over 24	Over 26
Enlisted Members															
E-9	As a senior enlisted advisor of a military service, E-9 basic pay is 4008.60.						2623.20	2682.00	2742.60	2805.60	2868.60	2924.10	3077.40	3197.40	3377.10
E-8	0.00	0.00	0.00	0.00	0.00	2199.60	2262.90	2322.30	2382.60	2445.60	2501.40	2562.90	2713.50	2834.40	3015.90
E-7	1535.70	1658.10	1719.00	1779.60	1840.20	1898.70	1959.60	2020.80	2112.00	2172.00	2232.00	2261.40	2413.20	2533.20	2713.50
E-6	1321.20	1440.30	1500.00	1563.90	1622.70	1680.90	1742.70	1832.40	1890.00	1950.60	1980.60	1980.60	1980.60	1980.60	1980.60
E-5	1159.50	1262.10	1323.30	1380.90	1471.80	1531.80	1592.10	1650.90	1680.90	1680.90	1680.90	1680.90	1680.90	1680.90	1680.90
E-4	1081.20	1142.10	1209.30	1302.60	1354.20	1354.20	1354.20	1354.20	1354.20	1354.20	1354.20	1354.20	1354.20	1354.20	1354.20
E-3	1019.10	1074.90	1117.50	1161.90	1161.90	1161.90	1161.90	1161.90	1161.90	1161.90	1161.90	1161.90	1161.90	1161.90	1161.90
E-2	980.70	980.70	980.70	980.70	980.80	980.70	980.70	980.70	980.70	980.70	980.70	980.70	980.70	980.70	980.70
E-1	874.80	874.80	874.80	874.80	874.80	874.80	874.80	874.80	874.80	874.80	874.80	874.80	874.80	874.80	874.80
E-1	809.10	(Less than 4 mos. active duty)													
Midn	558.04														
Warrant Officers															
W-5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3848.10	3993.90	4109.40	4282.50
W-4	2254.80	2419.20	2419.20	2474.40	2586.00	2700.90	2814.30	3011.10	3150.90	3261.60	3348.90	3456.90	3572.70	3684.00	3851.10
W-3	2049.30	2223.00	2223.00	2251.80	2277.90	2444.70	2586.90	2671.50	2756.10	2838.60	2926.80	3041.10	3150.90	3150.90	3261.60
W-2	1794.90	1941.90	1941.90	1998.30	2107.50	2223.00	2307.30	2391.90	2474.40	2561.40	2645.40	2728.50	2838.60	2838.60	2838.60
W-1	1495.20	1714.50	1714.50	1857.60	1941.90	2025.00	2107.50	2194.50	2277.90	2362.80	2444.70	2532.30	2532.30	2532.30	2532.30
Commissioned Officers															
O-10	7145.70	7397.10	7397.10	7397.10	7397.10	7681.20	7681.20	8106.60	8106.60	8686.50	8686.50	9268.20	9268.20	9268.20	9845.40
O-9	6333.00	6498.90	6637.50	6637.50	6637.50	6806.10	6806.10	7089.30	7089.30	7681.20	7681.20	8106.60	8106.60	8106.60	8686.50
O-8	5736.00	5908.20	6048.30	6048.30	6048.30	6498.90	6498.90	6806.10	6806.10	7089.30	7397.10	7681.20	7870.50	7870.50	7870.50
O-7	4766.10	5090.40	5090.40	5090.40	5318.70	5318.70	5626.80	5626.80	5908.20	6498.90	6945.90	6945.90	6945.90	6945.90	6945.90
O-6	3532.50	3881.10	4135.50	4135.50	4135.50	4135.50	4135.50	4135.50	4276.20	4952.40	5205.00	5318.70	5626.80	5817.00	6102.60
O-5	2825.40	3317.40	3546.90	3546.90	3546.90	3546.90	3654.00	3851.10	4109.10	4416.60	4669.50	4811.40	4979.40	4979.40	4979.40
O-4	2381.40	2900.10	3093.60	3093.60	3150.90	3289.80	3514.50	3711.90	3881.10	4051.80	4163.10	4163.10	4163.10	4163.10	4163.10
O-3	2213.10	2474.40	2645.40	2926.80	3066.90	3176.70	3348.90	3514.50	3600.60	3600.60	3600.60	3600.60	3600.60	3600.60	3600.60
O-2	1929.90	2107.50	2532.30	2617.20	2671.50	2671.50	2671.50	2671.50	2671.50	2671.50	2671.50	2671.50	2671.50	2671.50	2671.50
O-1	1675.50	1743.90	2107.50	2107.50	2107.50	2107.50	2107.50	2107.50	2107.50	2107.50	2107.50	2107.50	2107.50	2107.50	2107.50
Officers With More Than Four Years Active Duty as Enlisted or Warrant															
O-3E	0.00	0.00	0.00	2926.80	2066.90	3176.70	3348.90	3514.50	3654.00	3654.00	3654.00	3654.00	3654.00	3654.00	3654.00
O-2E	0.00	0.00	0.00	2617.20	2671.50	2756.10	2900.10	3011.10	3093.60	3093.60	3093.60	3093.60	3093.60	3093.60	3093.60
O-1E	0.00	0.00	0.00	2107.50	2251.80	2334.60	2419.20	2503.20	2617.20	2617.20	2617.20	2617.20	2617.20	2617.20	2617.20

Proposed Basic Allowance for Quarters

Pay Grade	Dependents Without Full	Dependents Without Partial	Dependents With
E-9	478.50	18.60	630.60
E-8	439.20	15.30	581.40
E-7	375.00	12.00	539.70
E-6	339.60	9.90	498.90
E-5	313.20	8.70	448.50
E-4	272.40	8.10	390.00
E-3	267.30	7.80	363.00
E-2	217.20	7.20	345.60
E-1	193.50	6.90	345.60
W-5	655.80	25.20	716.70
W-4	582.60	25.20	657.00
W-3	489.60	20.70	602.10
W-2	434.70	15.90	553.80
W-1	363.90	13.80	479.10
O-10	788.40	50.70	970.50
O-9	788.40	50.70	970.50
O-8	788.40	50.70	970.50
O-7	788.40	50.70	970.50
O-6	723.30	39.60	873.90
O-5	696.60	33.00	842.40
O-4	645.60	26.70	742.50
O-3	517.50	22.20	614.40
O-2	410.40	17.70	524.70
O-1	345.60	13.20	468.90
O-3E	558.60	22.20	660.30
O-2E	474.90	17.70	595.80
O-1E	408.30	13.20	550.50

ORDER OF PRECEDENCE — U.S. NAVY

MEDAL OF HONOR

NAVY CROSS

DEFENSE DISTINGUISHED SERVICE MEDAL

DISTINGUISHED SERVICE MEDAL

SILVER STAR

DEFENSE SUPERIOR SERVICE MEDAL

LEGION OF MERIT

DISTINGUISHED FLYING CROSS

NAVY AND MARINE CORPS MEDAL

BRONZE STAR

PURPLE HEART

DEFENSE MERITORIOUS SERVICE MEDAL

MERITORIOUS SERVICE MEDAL

AIR MEDAL

JOINT SERVICE COMMENDATION MEDAL

NAVY/MARINE CORPS COMMENDATION MEDAL

JOINT SERVICE ACHIEVEMENT MEDAL

NAVY/MARINE CORPS ACHIEVEMENT MEDAL

COMBAT ACTION RIBBON

PRESIDENTIAL UNIT CITATION

JOINT MERITORIOUS UNIT AWARD

NAVY UNIT COMMENDATION

MERITORIOUS UNIT COMMENDATION

NAVY "E" RIBBON

POW MEDAL

GOOD CONDUCT MEDAL

NAVAL RESERVE MERITORIOUS SERVICE MEDAL

FLEET MARINE FORCE RIBBON

NAVY EXPEDITIONARY MEDAL

CHINA SERVICE MEDAL

NAVY OCCUPATION SERVICE MEDAL

NATIONAL DEFENSE SERVICE MEDAL

KOREAN SERVICE MEDAL

ANTARCTICA SERVICE MEDAL

ARMED FORCES EXPEDITIONARY MEDAL

VIETNAM SERVICE MEDAL

SOUTHWEST ASIA SERVICE MEDAL

HUMANITARIAN SERVICE MEDAL

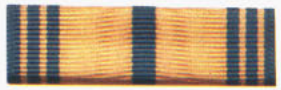
SEA SERVICE DEPLOYMENT RIBBON

NAVY ARCTIC SERVICE RIBBON

NAVAL RESERVE SEA SERVICE RIBBON

NAVY AND MARINE CORPS OVERSEAS SERVICE RIBBON

NAVY RECRUITING SERVICE RIBBON



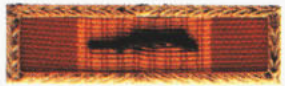
ARMED FORCES RESERVE MEDAL

NAVAL RESERVE MEDAL

PHILIPPINE PRESIDENTIAL UNIT CITATION

REPUBLIC OF KOREA PRESIDENTIAL UNIT CITATION

REPUBLIC OF VIETNAM PRESIDENTIAL UNIT CITATION



REPUBLIC OF VIETNAM GALLANTRY CROSS UNIT CITATION

REPUBLIC OF VIETNAM CIVIL ACTIONS UNIT CITATION

UNITED NATIONS SERVICE MEDAL

UNITED NATIONS MEDAL

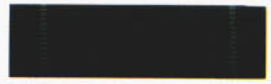
MULTINATIONAL FORCE AND OBSERVERS MEDAL

INTER-AMERICAN DEFENSE BOARD MEDAL

REPUBLIC OF VIETNAM CAMPAIGN MEDAL

KUWAIT LIBERATION MEDAL (Kingdom of Saudi Arabia)

EXPERT RIFLEMAN MEDAL



EXPERT PISTOL SHOT MEDAL

DEVICES

GOLD STAR
Denotes each subsequent award of the same Navy decoration.

SILVER STAR
Worn in the same manner as the gold star, in lieu of five gold stars.

BRONZE SERVICE STAR
The bronze five-pointed service star represents participation in campaigns or operations, multiple qualification or an additional award to any of the various ribbons on which it is authorized. Also worn to denote first award of the single mission air medal after Nov. 22, 1989.

SILVER SERVICE STAR
Worn in the same manner as the bronze star, but each silver star is worn in lieu of five bronze service stars.

BRONZE OAK LEAF CLUSTER
The bronze oak leaf cluster represents second and subsequent entitlements of awards.

SILVER OAK LEAF CLUSTER
A silver oak leaf cluster is worn for the sixth, 11th, or in lieu of five bronze oak leaf clusters.

WINTERED OVER
For wintering over on the Antarctic continent, a clasp for Antarctica Service Medal, suspension ribbon and a disc for the service ribbon of bronze for first winter, gold for second winter, silver for third winter.

"V" DEVICE
The metallic bronze letter "V" is authorized for acts or service involving direct participation in combat operations.

HOURGLASS
Issued for each succeeding award of the Armed Forces Reserve Medal.

EUROPE AND ASIA CLASPS
Worn on the suspension ribbon of the Navy Occupation Service Medal.

STRIKE/FLIGHT DEVICE
Bronze arabic numeral denotes the total number of strike/flight awards of the Air Medal earned subsequent to April 9, 1962.

FLEET MARINE FORCE COMBAT OPERATIONS INSIGNIA
For Navy personnel attached to fleet Marine force units participating in combat operations.

The above display represents the correct order of precedence for ribbons most likely to be worn today on the Navy uniform. Devices worn on these ribbons must be worn in a specific manner and are used to denote additional awards or participation in a specific event. For additional information about the proper order of display, placement of devices or about ribbons not shown, refer to SECNAVINST 1650.1F and U.S. Navy Uniform Regulation (NAVPERS 1566.5G).

Monthly Career Sea Pay Chart

Pay Grade	1 or less	Over 1	Over 2	Over 3	Over 4	Over 5	Over 6	Over 7	Over 8	Over 9	Over 10	Over 11	Over 12	Over 13	Over 14	Over 16	Over 18	Over 20
Enlisted Members																		
E-9	100.00	100.00	120.00	175.00	190.00	350.00	350.00	375.00	390.00	400.00	400.00	410.00	420.00	450.00	475.00	520.00		
E-8	100.00	100.00	120.00	175.00	190.00	350.00	350.00	375.00	390.00	400.00	400.00	410.00	420.00	450.00	475.00	500.00	520.00	
E-7	100.00	100.00	120.00	175.00	190.00	350.00	350.00	375.00	390.00	400.00	400.00	410.00	420.00	450.00	475.00	500.00		
E-6	100.00	100.00	120.00	150.00	170.00	316.00	325.00	350.00	350.00	365.00	365.00	365.00	380.00	395.00	410.00	425.00	450.00	
E-5	50.00	60.00	120.00	150.00	170.00	316.00	325.00	350.00										
E-4	50.00	60.00	120.00	150.00	160.00													
Warrant Officers																		
W-5	150.00	150.00	150.00	150.00	170.00	290.00	310.00	310.00	310.00	310.00	350.00	375.00	400.00	400.00	450.00	450.00	500.00	
W-4	150.00	150.00	150.00	150.00	170.00	290.00	310.00	310.00	310.00	310.00	350.00	375.00	400.00	400.00	450.00	450.00	500.00	
W-3	150.00	150.00	150.00	150.00	170.00	270.00	280.00	285.00	290.00	310.00	350.00	375.00	400.00	400.00	425.00	450.00	450.00	
W-2	150.00	150.00	150.00	150.00	170.00	260.00	265.00	265.00	270.00	310.00	340.00	340.00	375.00	375.00	400.00			
W-1	130.00	135.00	140.00	150.00	170.00	175.00	200.00	250.00	270.00	300.00	325.00	325.00	340.00	340.00	360.00	375.00		
Commissioned Officers																		
0-6				225.00	230.00	230.00	240.00	255.00	265.00	280.00	290.00	300.00	310.00	310.00	325.00	240.00	265.00	380.00
0-5				225.00	225.00	225.00	230.00	230.00	245.00	250.00	260.00	265.00	265.00	265.00	285.00	300.00	215.00	340.00
0-4				185.00	190.00	200.00	205.00	215.00	220.00	220.00	225.00	225.00	240.00	240.00	270.00	280.00	290.00	300.00
0-3				150.00	160.00	185.00	190.00	195.00	205.00	215.00	225.00	225.00	240.00	240.00	260.00	270.00	280.00	290.00
0-2				150.00	160.00	185.00	190.00	195.00	205.00	215.00	225.00	225.00	240.00	240.00	250.00	260.00	270.00	280.00
0-1				150.00	160.00	185.00	190.00	195.00	205.00	215.00	225.00	225.00	240.00	240.00	250.00	260.00	270.00	280. 00

Source: Defense Finance and Accounting Service

Monthly Submarine Pay Chart

Pay Grade	2 or less	Over 2	Over 3	Over 4	Over 6	Over 8	Over 10	Over 12	Over 14	Over 16	Over 18	Over 20	Over 22	Over 24	Over 26
Enlisted Members															
E-9	225.00	225.00	225.00	270.00	295.00	310.00	315.00	330.00	345.00	355.00	355.00	355.00	355.00	355.00	355.00
E-8	225.00	225.00	225.00	250.00	270.00	295.00	310.00	315.00	330.00	330.00	345.00	345.00	345.00	345.00	345.00
E-7	225.00	225.00	225.00	250.00	255.00	265.00	275.00	295.00	310.00						
E-6	155.00	170.00	175.00	215.00	230.00	245.00	255.00	265.00							
E-5	140.00	155.00	155.00	175.00	190.00	195.00									
E-4	80.00	95.00	100.00	170.00	175.00										
E-3	80.00	90.00	95.00	95.00	140.00	90.00									
E-2	75.00	90.00													
E-1	75.00														
Warrant Officers															
W-1 to W-5		235.00	310.00	310.00	355.00	355.00	355.00	355.00	355.00	355.00	355.00	355.00	355.00	355.00	355.00
Commissioned Officers															
08 to O-10		355.00	355.00	355.00	355.00	355.00	355.00	355.00	355.00	355.00	355.00	355.00	355.00	355.00	355.00
O-7	355.00	355.00	355.00	355.00	355.00	355.00	355.00	355.00	355.00	540.00	535.00	535.00	410.00	410.00	355.00
O-6	595.00	595.00	595.00	595.00	595.00	595.00	595.00	595.00	595.00	595.00	595.00	595.00	595.00		
O-5	595.00	595.00	595.00	595.00	595.00	595.00	595.00	595.00	595.00	595.00	595.00	595.00	595.00		
O-4	365.00	365.00	365.00	405.00	595.00										
O-3	355.00	365.00	365.00	390.00	595.00										
O-2	235.00	235.00	235.00	235.00	235.00	235.00	355.00								
O-1	175.00	175.00	175.00	175.00	175.00	175.00	355.0								

Source: Defense Finance and Accounting Office

Proposed 1996 Basic Allowance for Subsistance

Enlisted	**E-1 < Four Months**	**All Others**
Rations in kind not available	$7.43 per day	$ 8.06 per day
On leave or authorized to mess separately	$6.59 per day	$ 7.15 per day
Emergency conditions/no govt. mess avail.	$9.86 per day	$10.67 per day

Officers (Includes commissioned, warrants and aviation cadets) $149.67 per month

Aviation Career Incentive Pay

Phase I		**Phase II**	
Years of Aviation Service	**Monthly Amount**	**Years of Service as an Officer**	**Monthly Amount**
2 or less	$125	Over 18	$585
Over 2	$156	Over 20	$495
Over 3	$188	Over 22	$385
Over 4	$206	Over 25	$250
Over 6	$650		

Hazardous Duty Incentive Pay

E-7 to E-9	$200	W-1	$125
E-6	$175	O-7 to O-10	$110
E-5	$150	O-5 to O-6	$250
E-4	$125	O-4	$225
E-1 to E-3	$110	O-3	$175
W-4 to W-5	$250	O-2	$150
W-3	$175	O-1	$125
W-2	$150		

**** Note: Proposed 2.4 percent pay raise.***

SPECIAL PULLOUT

First Class Diver

Second Class Diver

Scuba Diver

Explosive Ordnance Disposal

Senior Explosive OrdnanceDisposal

Master Explosive Ordnance Disposal

Integrated Undersea Surveillance System (enlisted)

Integrated Undersea Surveillance System (officer)

Command-at-Sea

Command Ashore/ Project Manager

Small Craft (officer)

Small Craft (enlisted)

Presidential Service Badge

Vice Presidential Service Badge

Craftmaster

Office of the Secretary of Defense

Joint Chiefs of Staff

Career Counselor

Recruiting Command

Recruiting Command for Excellence

Recruit Company Commander

U.S. Navy Police (officer)

U.S. Navy Police (enlisted)

U.S. Navy Security

U.S. Navy Guard

U.S. Navy Corrections

U.S Navy Master-at-Arms

POWER AND PERFORM

The Role of the Aircraft Carrier and Crew

"When word of a crisis breaks out in Washington, it's no accident that the first question that comes to everyone's lips is: 'Where is the nearest carrier?'"

– President Bill Clinton
Aboard USS *Theodore Roosevelt*
March 12, 1993

Ever since the Battle of Midway during World War II, the strategic importance of the aircraft carrier has been reaffirmed time and again. When a crisis erupts anywhere in the world and U.S. interests are imperiled, an aircraft carrier and its battle group are generally less than 48 hours away.

That's one reason why the aircraft carrier has been called our nation's most flexible tool of diplomacy. It serves as a highly visible deterrent to would-be aggressors. If deterrence fails, the carrier and its battle group offer the most versatile and powerful weapons system available.

A traditional battle group consists of an aircraft carrier and its air wing of more than 80 planes, two cruisers, four destroyers, two attack submarines, eight helicopters and a fast combat support ship.

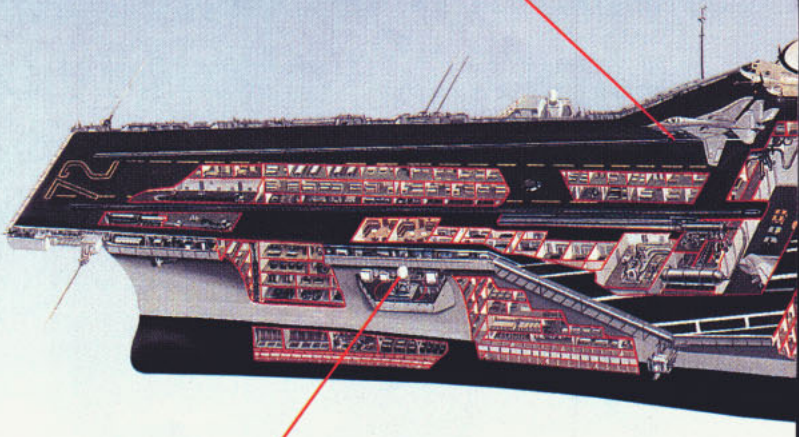
The carrier is "home" to about 6,000 Sailors. Its mission is to provide a floating, mobile airport for tactical aircraft. As a self-contained city, the carrier has virtually the same amenities as any American city with a comparable population. It has a daily newspaper, radio and television stations, fire department, library, hospital, ship's store, laundry, two barber shops, even a post office with its own zip code.

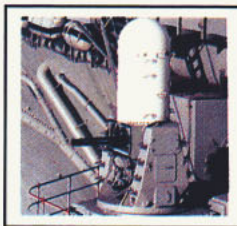
SPECIFICATIONS

Displacement:	102,000 tons
Length:	1,092 ft.
Width:	134 ft.
Propulsion:	Nuclear power; 4 turbines;
	260,000 horsepower; 4 shafts
Speed:	30+ knots
Complement:	Ship's company 3,185
	Air Wing 2,800
Weapons:	4 - 20mm Close-in Weapons Systems
	NATO Sea Sparrow missile system

AIRCRAFT LAUNCHING

As many as four planes can be launched from an aircraft carrier every minute. In less than three seconds, powerful steam catapults can accelerate a fully-loaded, 48,000 pound F/A-18C from zero to 165 miles per hour in about 310 feet.





FIRE-POWER

Although aircraft make up the carrier's main line of defense, the close-in weapons system, or Vulcan Phalanx Gatling Gun's, with its six barrels, can fire more than 4,500 20mm shells a minute at an incoming missile or aircraft.

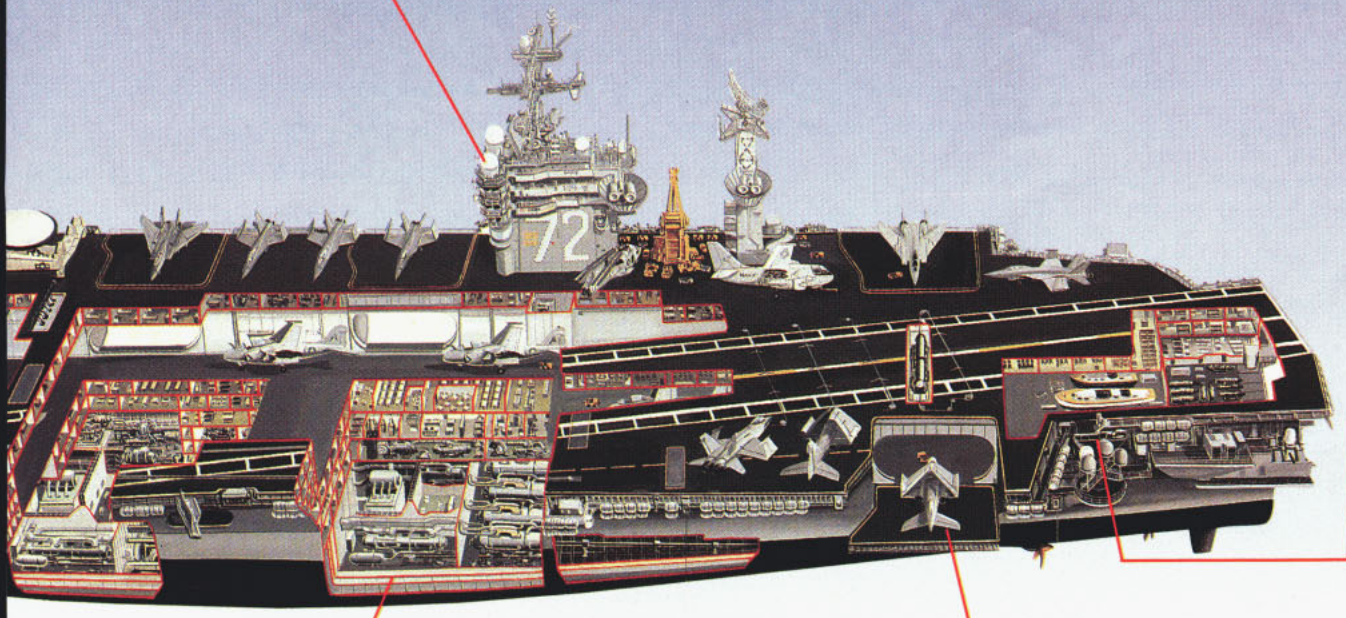
MANCE FROM THE SEA

THE BRIDGE

An aircraft carrier's bridge watch team is responsible for the safe navigation of the ship. From the Officer of the Deck to the Helmsman, all watch team members must keep alert to every evolution.

AIR WING

The ship's air wing has more than 80 aircraft. Landing Signal Officers provide instant feedback to pilots as they approach the carrier.



STEAMING POWER

More than 350 Engineering Department Sailors help keep these floating fortresses at sea. Nuclear power generates steam to drive four turbines producing more than 260,000 horsepower, capable of powering the 102,000-ton carrier to its destination at more than 30 knots.

ARRESTING GEAR

Four large cables are stretched across the flight deck landing area. As the aircraft hits the deck, the tailhook catches one of the wires. The tension on the wires is adjusted on arresting gear machinery below deck to safely stop the aircraft.

Fighters, Bombers & Tactical Aircraft

F/A-18E/F *Hornet*
The F/A-18 all-weather strike fighter provides fleet defense and escort. It is also used for force projection, interdiction and air support. The E/F model boasts increased range, more powerful engines, heavier payload and increased bring-back capability.

Wingspan:	37 ft., 6 inches
Length:	56 ft.
Height:	15 ft., 3.5 in.
Speed:	Mach 1.8+
Range:	2,073 miles
Armament:	20mm M-61A1 *Vulcan* cannon *Sparrow III* missile (fighter) *Sidewinder* missile (fighter) Guided /conventional air-to-ground ordnance (attack) *Harpoon* & *HARM* missiles
Crew:	1 (A, C & E); 2 (B, D & F)

EA-6B *Prowler*
The all-weather, subsonic *Prowler* supports air strikes and ground troops by jamming enemy radar, and providing electronic data links and communications.

Wingspan:	53 ft.
Length:	59 ft., 10 inches
Height:	16 ft., 3 inches
Speed:	610 mph
Range:	1,099 miles
Armament:	*HARM* missiles
Crew:	4

F/14D *Tomcat*
The variable sweep wing, F/14 *Tomcat* destroys multiple targets in all weather conditions, using a vast array of weapons. The *Tomcat* is also used for power projection and as an intercepter. The aircraft has recently been adapted for an air-to-ground attack role.

Wingspan:	64 ft. (unswept); 38 ft. (swept)
Length:	61 ft., 8 inches
Height:	16 ft.
Speed:	Mach 2+
Range:	2,300 miles
Armament:	AIM-54s, AIM-7s and AIM-9s Air-to-ground ordnance 20mm M-61A1 *Vulcan* cannon
Crew:	2

S-3 *Viking*
The carrier-based, all-weather, multi-mission S-3 *Viking* seeks and destroys submarines and provides surveillance.

Wingspan:	68 ft., 8 inches
Length:	53 ft., 4 inches
Height:	22 ft., 9 inches
Speed:	518 mph
Range:	2,645 miles
Armament:	*Harpoon* missiles; rockets; mines; torpedoes; depth charges
Crew:	4

A-6E *Intruder*
The A-6E, an all-weather, two-seat carrier-based attack bomber, destroys fixed and moving targets on land or at sea.

Wingspan:	53 ft.
Length:	54 ft., 9 inches
Height:	16 ft., 2 inches
Speed:	644 mph
Range:	1,011 miles
Armament:	*HARM, Sidewinder* and *Harpoon* missiles
Crew:	2

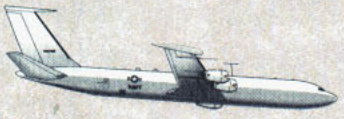
P-3C *Orion*
The P-3C is a land-based, long-range anti-submarine patrol aircraft. Using sonobuoys and magnetic anomaly detection equipment, it detects, identifies and destroys submarines.

Wingspan:	99 ft., 8 inches
Length:	116 ft., 10 inches
Height:	33 ft., 8 inches
Speed:	473 mph
Range:	2,383 miles
Armament:	*Harpoon* missile MK-46 torpedoes, mines; depth charges; sonobuoys
Crew:	10

Command and Control Aircraft

E-2C *Hawkeye*
The carrier-based E-2C aircraft uses computer sensors to provide early warning, threat analysis and counteraction control for a carrier battle group.

Wingspan:	80 ft., 7 inches
Length:	57 ft., 6 inches
Height:	18 ft., 4 inches
Speed:	389 mph
Range:	1,500+ miles
Armament:	None
Crew:	5



E-6A *TACAMO*
The E-6A provides secure, jam-resistant strategic communications relay for submarines using a wire antenna several thousand feet long.

Wingspan:	148 ft., 4 inches
Length:	152 ft., 11 inches
Height:	42 ft., 5 inches
Speed:	610 mph
Range:	6,700 miles
Armament:	None
Crew:	14

Training Aircraft

T-45A *Goshawk*
The T-45 serves as an intermediate and advanced pilot trainer for jet carrier aviation and tactical strike missions.

Wingspan:	30 ft., 10 inches
Length:	39 ft., 4 inches
Height:	14 ft.
Speed:	620 mph
Range:	1150 miles
Armament:	None
Crew:	2 (instructor, student)

Helicopters

SH-3H *Sea King*
The ship-based SH-3H all-weather helicopter detects, classifies, tracks and destroys submarines, and provides support, search and rescue functions.

Length:	54 ft., 9 inches
Height:	17 ft.
Speed:	136 mph
Range:	623 miles
Armament:	2 - MK-46 torpedoes
Crew:	4

UH-46 *Sea Knight*
The versatile UH-46 transports cargo and personnel and conducts search and rescue missions.

Length:	46 ft.
Height:	17 ft.
Speed:	165 mph
Range:	132+ miles
Armament:	None
Crew:	4

SH-2G *Seasprite*
The ship-based SH-2F helicopter provides anti-submarine and anti-ship surveillance, and targets aircraft.

Length:	52 ft., 7 inches
Height:	15 ft.
Speed:	153 mph
Range:	391 miles
Armament:	2 - MK-46 torpedoes
Crew:	3

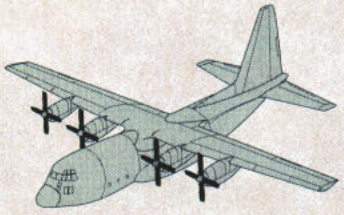
SH-60B *Seahawk*
The SH-60 is part of the LAMPS Mk-III computer integrated ship/helicopter weapons system. It provides a remote platform for weapons deployment, sensor information and surveillance.

Length:	64 ft., 10 inches
Height:	17 feet
Speed:	144 mph
Range:	380 + miles
Armament:	2 - MK-46 torpedoes
Crew:	3

CH-53 *Sea Stallion*
The CH-53 helicopter transports personnel, equipment and supplies. It can be equipped for mine countermeasures and amphibious operations.

Length:	67 ft., 5 inches
Height:	24 ft., 11 inches
Speed:	184 mph
Range:	665 miles
Armament:	None
Crew:	3

Transport Aircraft

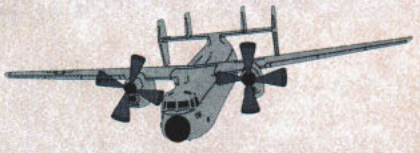


C-130 *Hercules*
The versatile, multi-purpose C-130 transports personnel and cargo and can be outfitted for special operations.

Wingspan:	132 ft., 7 inches
Length:	97 ft., 9 inches
Height:	38 ft., 3 inches
Speed:	374 mph
Range:	2,350 miles w/ max. payload; 5,200 empty
Armament:	None; can be fitted with 7.62mm miniguns, 20mm *Vulcan* cannons, 40mm *Bofors* cannons and 105mm Howitzer
Crew:	5

C-9B *Skytrain II*
The C-9B provides intratheater transport and logistics support. It also airlifts naval reservists to and from training sites.

Wingspan:	93 ft., 3 inches
Length:	119 ft., 3 inches
Height:	27 ft., 5 inches
Speed:	565 mph
Range:	2,000 miles
Armament:	None
Crew:	8



C-2A *Greyhound*
The C-2A turboprop delivers critical logistics support to carriers through its primary mission of Carrier Onboard Delivery (COD).

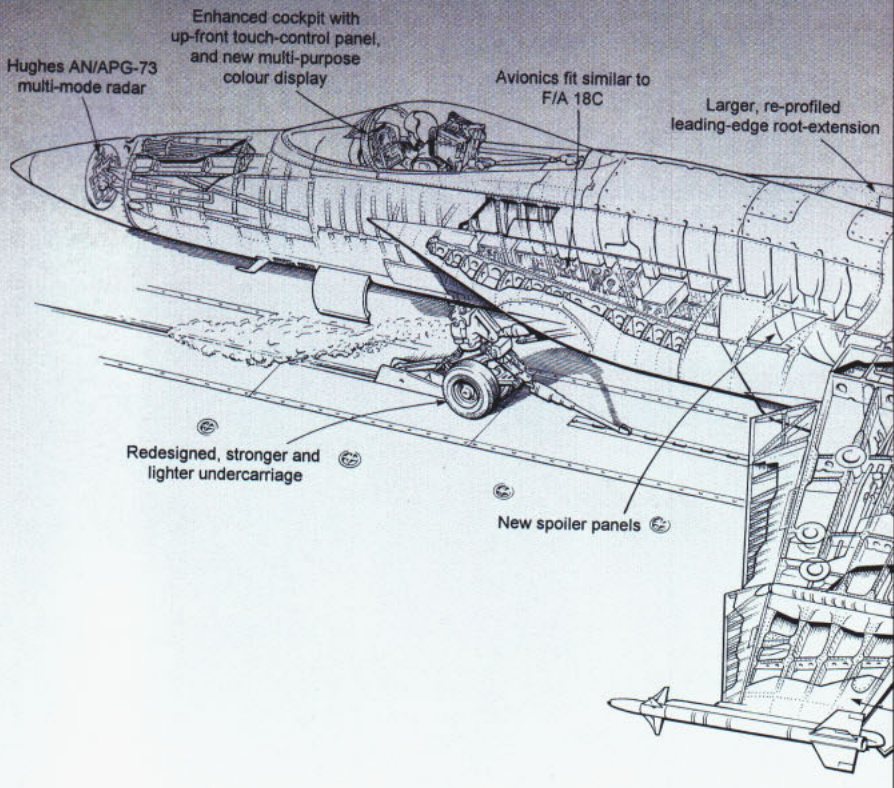
Wingspan:	80 ft., 7 inches
Length:	56 ft., 10 inches
Height:	15 ft., 11 inches
Speed:	357 mph
Range:	1,796 miles
Armament:	None
Crew:	4

POWER AND PERFOR

The *F/A-18 E/F*, known as the *Super Hornet*, is the Navy's newest fighter/attack aircraft. Both the single-seat E-model and two-seat F-model offer longer range, greater endurance, more payload-carrying ability, more powerful engines, increased carrier bringback capability and enhance survivability.

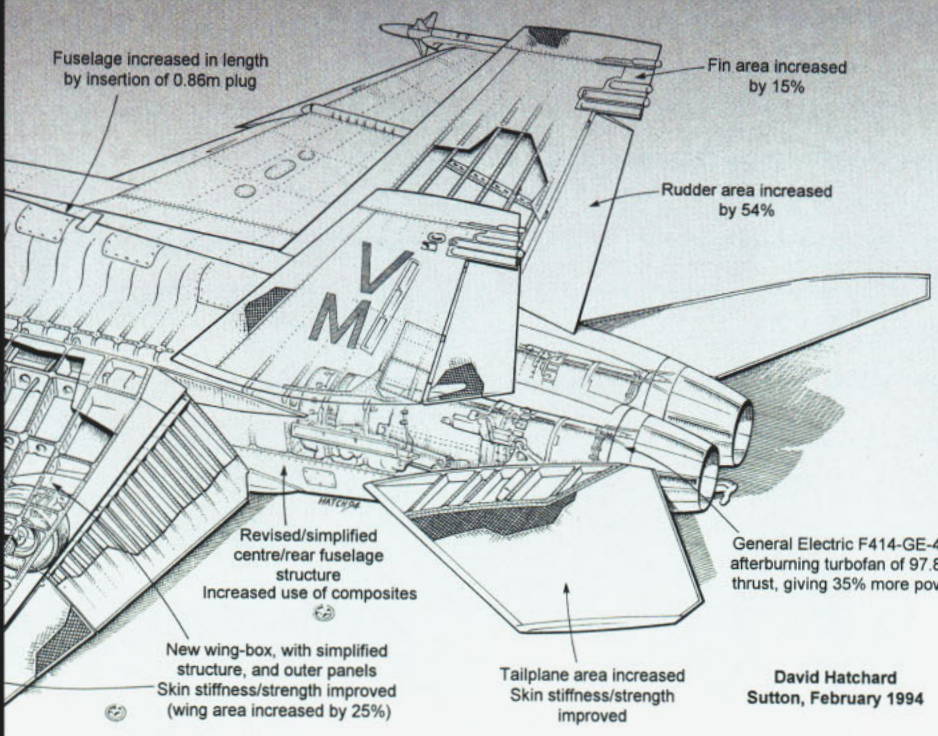
Structural changes to the airframe increase internal fuel capacity by 3,600 pounds or 33 percent. This extends the *Super Hornet's* mission radius by up to 40 percent.

The fuselage is slightly longer and the wings are 25 percent larger, providing 100 additional square feet of surface area. Two weapons stations have been added, for a total of 11. New engines provide 35 percent more thrust and improve overall mission performance.



SPECIFICATIONS

Type:	Twin-turbofan tactical aircraft
Propulsion:	Two GE F414 turbofan engines
Radar:	Hughes APG-73 multimode radar
Wingspan:	41 ft., 4 inches
Length:	60 ft., 4 inches
Height:	16 ft.
Speed:	Mach 1.8+
Range:	759+ miles
Payload:	17,750 pounds max
Armament:	20mm M-61A1 *Vulcan* cannon
	Sparrow III missile (fighter)
	Sidewinder missile (fighter)
	Guided /conventional air-to-ground ordnance (attack)
	Harpoon & *HARM* missiles
Crew:	1 (E); 2 (F)



David Hatchard
Sutton, February 1994

Air-to-Air Missiles

Sparrow

Primary mission: Highly maneuverable, radar-guided missile, with all-weather capability; can attack high-performance aircraft and missiles from any direction. **Dimensions:** length – 12 ft.; diameter – 8 in.; weight – 510 lbs. **Range:** more than 30 nautical miles. **Payload:** blast fragment, high explosive.

Phoenix

Primary mission: All-weather, long-range missile, carried in clusters, up to six missiles on the F-14; provides near simultaneous launch against multiple air targets. **Dimensions:** length – 13 ft.; diameter – 15 in.; weight – 989 lbs. **Range:** more than 104 nautical miles. **Payload:** proximity fuse, high-explosive; weight – 135 lbs.

Sidewinder

Primary mission: All-weather, heat-seeking, short-range, dogfight missile; can be used day or night and hones in on the engine exhaust of target aircraft. **Dimensions:** length – 9 ft., 4.2 in.; diameter – 5 in.; weight – 188 lbs. **Range:** 10,000 to 20,000 yards. **Payload:** annular blast fragmentation; weight – 20.8 lbs.

AMRAAM

Primary mission: All-weather, radar-guided beyond-visual range missile; provides launch and leave capability and multiple target engagement capability. **Dimensions:** length – 11 ft., 9 in.; diameter – 7 in.; weight – 300 lbs. **Range:** 39 nautical miles. **Payload:** blast high explosive.

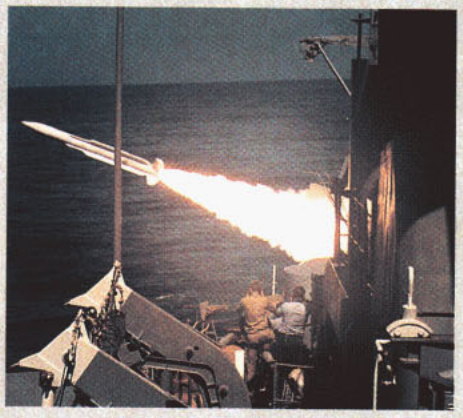
Cruise Missiles

Tomahawk

Primary mission: Long-range, subsonic cruise missile; conventionally armed for anti-surface warfare; and conventionally or nuclear-armed in land attack versions. **Dimensions:** length – 18 ft., 3 in.; diameter – 20.4 in. **Payload:** Conventional – 1,000 lb. *Bullpup* or conventional submunitions dispenser with combined effect bomblets. Nuclear – W-80 warhead.

Harpoon

Primary mission: All-weather, over-the-horizon anti-ship missile; capable of being launched from surface ships, submarines or from aircraft to destroy combatants, submarines or other shipping. **Dimensions:** length – 15 ft., surface/submarine launched; 12 ft., 7 in. air launched; diameter – missile body, 13.5 in. **Payload:** 500 lbs. high explosive, blast penetrator.



Surface-to-Air Missiles

***Standard* Missile Family**

Primary mission: Engage and intercept aircraft, anti-ship missiles and surface ships. **SM-1 MR, SM-2 MR Dimensions:** length – 14 ft., 7 in.; diameter – 13.5 in.; weight – SM-1, 1,100 lbs.; SM-2, 1,380 lbs. **Payload:** proximity fuse, high explosive. **SM-2 ER Dimensions:** length – 26.2 ft.; diameter – 13.5 in.; weight – 2,980 lbs. **Payload:** proximity fuse, high explosive.

Fleet Ballistic Missiles

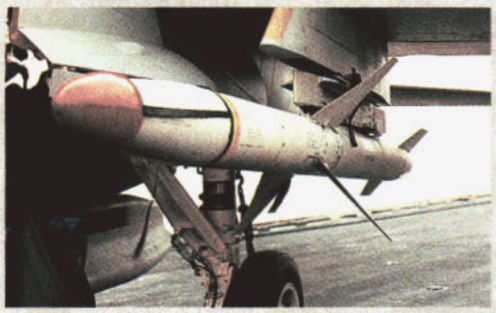
***Trident II* (D-5)**

Primary mission: Subsurface to surface strategic nuclear deterrence. **Dimensions:** length – 44 ft.; diameter – 83 in.; weight – 126,000 lbs. **Range:** more than 6,000 nautical miles. **Payload:** Thermonuclear MIRV (Multiple Independently Targetable Re-entry Vehicle); Maneuverable Re-entry Vehicle (MRV) warhead.

***Trident I* (C-4)**

Primary mission: Subsurface to surface strategic nuclear deterrence. **Dimensions:** length – 34 ft.; diameter – 74 in.; weight – 73,000 lbs. **Range:** 4,000 nautical miles. **Payload:** Thermonuclear MIRV with maneuverable warhead.

Air-to-Ground Missiles



***HARM* Missile**

Primary mission: High-speed, anti-radiation missile; designed to seek out and destroy enemy radar-equipped air defense systems. **Dimensions:** length – 13 ft., 7 in., diameter – 10 in., weight – 798 lbs. **Range:** approximately 80 nautical miles. **Payload:** blast fragmentation.

Anti-radar Missile

Primary mission: The AGM-45 shrike is designed to home in on anti-aircraft radars. **Dimensions:** length – 10 ft., diameter – 8 in.; weight – 390 lbs. **Range:** delivered by fighter aircraft, employs solid-fueled rocket. **Payload:** explosive blast warhead.

IR *Maverick* Missile

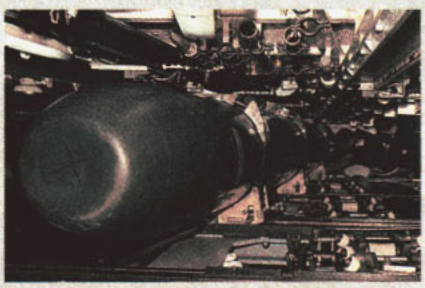
Primary mission: Forward fired, infrared-guided weapon; designed for day/night sea warfare and land interdiction. **Dimensions:** length – 8 ft. 2 in.; diameter – 12 in.; wing span – 2 ft., 4 in.; weight 675 lbs. **Range:** 12 nautical miles. **Payload:** 300 lb. penetrating/blast warhead.

Aegis System

The *Aegis* System, named after the mythological shield of Zeus, draws on state-of-the-art technology as a total weapon system. It is the most capable surface-launched missile system the Navy has ever put to sea.

Primary mission: Used against anti-ship cruise missiles and manned aircraft flying in all speed ranges from subsonic to supersonic; system has all-weather capability and outstanding ability in chaff and jamming environments.

Benefits: Provides area defense for a battle group and a clear air picture for more effective deployment of F-14 and F/A-18 aircraft. It also enables fighter aircraft to concentrate more on the outer air battle while cruisers and destroyers assume a greater responsibility for battle group area defense.



Torpedoes

MK 48 and MK 48 Advanced Capability (AdCap) Torpedo

Primary mission: Subsurface to subsurface and subsurface to surface. **Dimensions:** length – 19 ft.; diameter – 21 in.; weight – 3,520 lbs., (MK 48 AdCap – 3,695 lbs.). **Range:** 23 miles; depth – more than 1,200 ft. **Guidance:** wire-guided active and/or passive homing. **Payload:** 650 lbs. high-explosive warhead.

MK 46 Torpedo

Primary mission: Launched from surface combatant torpedo tubes, ASROC missile and fixed and rotary wing aircraft. **Dimensions:** length – 8.5 ft.; diameter – 12.75 in., weight – 508 lbs. **Guidance:** 2 different modes – active or passive/active homing. **Payload:** 98 lbs. of PBXN-103 high explosive.

MK 50 Torpedo

Primary mission: Surface and air to sub-surface. **Dimensions:** length – 9.5 ft.; diameter – 12.75 in.; weight – 800 lbs. **Guidance:** active/passive acoustic homing.

Naval Guns

MK 15 *Phalanx* Close-in Weapons System (CIWS)

Primary mission: Fast-reaction, rapid-fire 20-millimeter gun system; provides defense against anti-ship missiles and hostile air targets at short range. **Dimensions:** weight – 12,500 lbs.; magazine capacity – 1,500 rounds of 20 mm ammunition. **Features:** 3,000 - 4,500 rounds per minute.

5-inch/.54 Caliber Lightweight Gun

Primary mission: Fires at a rate of 16 to 20 rounds per minute; provides surface combatants with accurate naval gunfire against fast, highly maneuverable surface targets, air threats and shore targets.

MK 75, 76mm/.62 Caliber Gun System

Primary mission: Provides frigates and other combatants with a fast-reaction, lightweight gun; counters aircraft, cruise missiles and surface ships. **Features:** an enclosed naval gun mount, single barrel, remote-controlled, rapid-fire capability.

POWER AND PERFORM

NEW ATTACK SUBMARINE

The new attack submarine's (NSSN) design is tailored for the 21st century, to operate "Forward ... from the sea." The NSSN incorporates the best new technologies and is designed for maximum flexibility.

The NSSN will maintain U.S. undersea superiority against all current and projected undersea threats. The NSSN's vertical launch system enhances the ship's ability to project power ashore and support the land battle with precision strike missiles. Its designed-in flexibility includes space for mission-specific equipment, carry-on electronics and remotely-operated vehicles. Improved electromagnetic and acoustic stealth capabilities ensures the NSSN's ability to detect and avoid mines and destroy advanced submarines.

Additionally, the NSSN will be capable of interdicting shipping or defending sea lines of communication. The NSSN's clandestine strike and significant organic special operating forces (SOF) capabilities will afford policy makers enhanced diplomatic leverage.

The cornerstone of the NSSN program is the design/build process. The modular design process permits rapid assessment and evaluation of new technologies. This innovative process, coupled with new modular construction techniques, changes the way this ship will be produced. Additionally, design features will be incorporated for rapid infusion of new technologies as they reach maturity. Examples include:

- **Open Systems Architecture.** Using widely available public domain standards (including networks, operating systems, graphics and interconnect protocols), the combat, communications and information systems will have industry standard interfaces that offer portability, reusability of software and future technology upgrades.
- **Fiber Optic Cable Systems.** A platform-wide fiber optic cable installation will be sized for future growth. The structure of the network will make it easier to attach and integrate new equipment in a plug-in/plug-out manner.
- **Commercial Off-The-Shelf (COTS) Electronics.** Use of commercially available electronics allows the Navy to leverage the growth in signal and information processing and display technologies occurring in industry.
- **Isolated Deck Structure.** This design initiative allows ease of equipment integration, will have enough shock and acoustic isolation to allow the use of COTS technology and provides a method to incorporate additional noise control technologies as they are developed.

SPECIFICATIONS

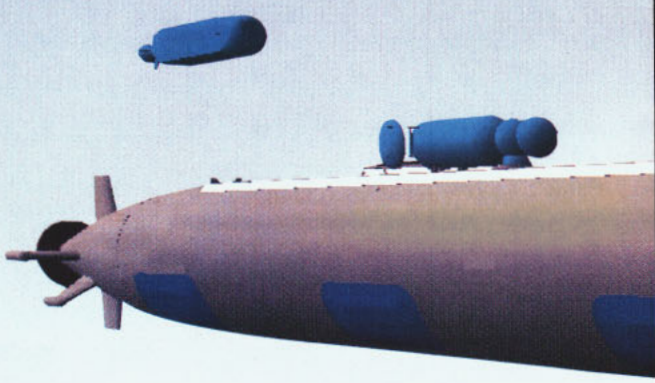
Length:	377 ft.
Displacement:	7,500 tons
Draft:	32 ft.
Speed:	25+ knots
Test Depth:	800+ ft.
Weapons:	12 missiles in vertical launch tubes 24 weapons in torpedo room 4 torpedo tubes
Crew:	134
Missions:	A truly multi-mission, stealth warship that is fully capable of all sea control and power projection missions. Submarines play a unique role in forward-presence missions. An adversary must assume a submarine is present, and act accordingly. Submarines also perform all of the following missions: Clandestine Strike National Intelligence/Surveillance Anti-Submarine Warfare Anti-Surface Ship Warfare Carrier Battle Group Support Special Forces Operations Clandestine Mining Mine Reconnaissance

TOWED ARRAY

The towed array is a group of sensitive hydrophones attached to the end of a long cable and towed behind the ship. This array can detect quiet contacts. The NSSN will carry the TB-29 towed array system, which is the most advanced towed array produced.

WIDE APERTURE ARRAY (WAA)

The wide-aperture array (WAA) is a hull-mounted sonar array made up of three flat panels on each side of the ship. It is a "detection and analysis" tool. The WAA was validated at sea on board USS *Augusta* (SSN 710), and will be used aboard *Seawolf* and NSSN-class attack submarines.



SPECIAL OPERATIONS

Submarines have long been used for special operations – carrying commandos and reconnaissance teams on missions. Most special operations by U.S. submarines are carried out by Sea-Air-Land (SEAL) teams trained for these special missions.

The NSSN will be the ideal platform for SEAL team insertion. It has a specially designed chamber to house SEALs and their equipment. Additionally, the sub can be configured to support a dry deck shelter, a portable structure on the submarine used to deploy a swimmer delivery vehicle (SDV).

The SDV is a mini-sub that shuttles SEALs from the submarine to the beach. In 1998 the Navy will introduce a mini-sub, called the advanced swimmer delivery system (ASDS). The ASDS, which will piggy back on the NSSN, could deliver SEALs and their equipment to the objective area warm, dry and rested.

SAIL

When a submarine operates on the surface, the officer of the deck and the lookout stand their watches on the bridge in the sail. These watches are stood outside, only 20 feet above the surface of the sea.

The sail also houses the submarine's assorted masts and antennas, which retract to minimize drag when submerged, or the probability of counter-detection when operating near the surface. Masts include: surface search radar, electronic support measures (ESM) and radio antennas, snorkel mast and photonics periscopes which use state-of-the-art color and black-and-white video cameras.

The NSSN's sail is revolutionary because it is completely modular, which eases maintenance and offers the option to easily reconfigure masts for a specific mission.

CRUISE MISSILES

Tomahawk

The *Tomahawk* is an all-weather, subsonic, long-range cruise missile used against surface ships or land targets.

Tomahawks are launched from a submarine's vertical launch tubes or from torpedo tubes. The missile is propelled to the surface by a rocket motor, and once clear of the water, small wings and fins extend and the turbofan engine starts. Various navigation methods are used to direct the missile to the target. These include inertial navigation, terrain contour matching, digital scene matching, area correlation and the global positioning system.

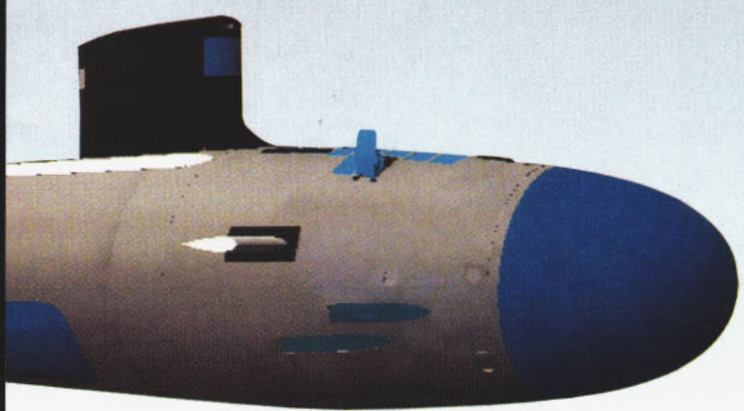
Harpoon

The *Harpoon* is an anti-ship cruise missile that has been encapsulated to support launch from a submarine's torpedo tube. With a range of about 70 nautical miles, this missile enables over-the-horizon engagement of hostile surface combatants.

VERTICAL LAUNCH TUBES

The NSSN has 12 vertical launch tubes. The clandestine nature of submarine operations allows the submarine to be tasked with pre-emptive strikes from denied areas prior to sea superiority being achieved. Firing from forward positions early in a conflict can blunt an opposing force's initial advance, and may be key to turning the course of future conflicts before U.S. forces arrive in theater.

The Navy is investigating the feasibility of launching the Army's tactical ballistic missile (ATACMS) from submarine vertical launch tubes. This missile would compliment *the Tomahawk* by providing a short time of flight, easily and quickly targeted, supersonic ballistic missile that is incredibly difficult to intercept. Clandestine, quick responses and precision strikes from a stealthy naval combatant are valuable in supporting naval amphibious and special operations forces (SOF) operations and operational maneuverability from the sea.



RECONFIGURABLE TORPEDO ROOM

The NSSN's torpedo room features an innovative new design. It will allow mission planners to use the space for weapons or for mission-specific stowage. By removing the torpedoes, more space can be allotted for special warfare forces, special electronic equipment or even storage of unmanned undersea vehicles.

Naval Ships

Aircraft Carriers

MISSION: The centerpieces of the Navy's offensive and defensive strategy, carriers support and operate aircraft that engage in attacks on airborne, afloat and ashore targets which threaten our use of the sea. These vessels also engage in sustained operations in support of other forces.

***Kitty Hawk* (CV 63) Class**	**3 ships**
Displacement:	81,123 tons
Length:	1,046 ft.
Beam:	130 ft.
Flight Deck Width:	252 ft.
Max Speed:	32+ knots
Complement:	3,150 ship's company 2,480 air wing
Aircraft:	Approximately 85

***John F. Kennedy* (CV 67) Class**	**1 ship**
Displacement:	82,000 tons
Length:	1,052 ft.
Beam:	130 ft.
Flight Deck Width:	252 ft.
Max Speed:	30+ knots
Complement:	3,117 ship's company 2,480 air wing
Aircraft:	Approximately 85

***Enterprise* (CVN 65) Class**	**1 ship**
Displacement:	93,970 tons
Length:	1,123 ft.
Beam:	133 ft.
Flight Deck Width:	252 ft.
Max Speed:	33+ knots
Complement:	3,350 ship's company 2,480 air wing
Aircraft:	Approximately 85

***Nimitz* (CVN 68) Class**	**6 ships**
Displacement:	91,487 tons (CVN-71: 96,358 tons)
Length:	1,040 ft.
Beam:	134 ft.
Flight Deck Width:	252 ft.
Max Speed:	30+ knots
Complement:	3,200 ship's company 2,480 air wing
Aircraft:	Approximately 85

***Forrestal* (CV 59) Class**	**1 ship**
Displacement:	80,643 tons
Length:	1,071 ft.
Beam:	130 ft.
Flight Deck Width:	250 ft.
Max Speed:	33+ knots
Complement:	3,019 ship's company 2,480 air wing
Aircraft:	Approximately 75

Surface Warfare Ships

MISSION: Primary surface-borne combatants conduct at-sea battle operations against surface, air and sub-surface enemies, protect sea lanes and serve as front-line support to aircraft carriers in a battle group.

Frigates

Anti-submarine warfare combatants protect shipping lanes for amphibious expeditionary forces, as well as underway replenishment groups and merchant convoys.

***Oliver Hazard Perry* (FFG 7) Class**	**35 ships**
Displacement:	4,100 tons
Length:	445 ft. (453 with LAMPS III mod)
Beam:	45 ft.
Max Speed:	29 knots
Complement:	206
Aircraft:	2 - SH-60B (LAMPS III) in FFG 8, 36-61; 1 - SH-2F (LAMPS I) in FFG 7, 9-35 [FFGs 28-35 to be converted for LAMPS III]

Cruisers

Multi-mission surface combatants with extensive warfare capability support battle groups and amphibious forces. Also serve as flagship of surface action groups and can operate independently. Extensive warfighting capability. *Ticonderoga* and *Virginia*-classes are also equipped with *Tomahawk* ASM/LAM for long-range strike capability.

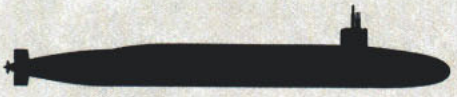
***Ticonderoga* (CG 47) Class**	**27 ships**
Displacement:	9,466 tons
Length:	567 ft.
Beam:	55 ft.
Max Speed:	30+ knots
Complement:	358-405
Aircraft:	2 - SH-2 (LAMPS) in CG 47-48; 2 - SH-60 (LAMPS III) in CG 49 & later

***Virginia* (CGN 38) Class**	**2 ships**
Displacement:	11,300 tons
Length:	585 ft.
Beam:	63 ft.
Max Speed:	30+ knots
Complement:	558-624

***California* (CGN 36) Class**	**2 ships**
Displacement:	10,450 tons
Length:	596 ft.
Beam:	61 ft.
Max Speed:	30+ knots
Complement:	603

Ballistic Missile Submarines

MISSION: Deterrence of war has been the sole mission and fundamental reason for the existence of the fleet ballistic missile submarine since its inception in 1960. Among the Navy's highest priority programs, ballistic missile submarines are the cornerstone of the national security policy functioning as the most survivable and enduring leg of the strategic deterrent triad.



***Ohio* (SSBN 726) Class**	**16 ships**
Displacement (submerged):	18,700 tons
Length:	560 ft.
Beam:	42 ft.
Max Speed:	25+ knots
Complement:	154

Attack Submarines

MISSION: Destroy enemy ships, primarily submarines, to prohibit the employment of such forces against the United States or allied ships.

***Seawolf* (SSN 21) Class**	**3 ships***
Displacement (submerged):	9,130 tons
Length:	353 ft.
Beam:	42 ft.
Max Speed:	25+ knots
Complement:	133

* Third ship pending Congressional approval.

***Bainbridge* (CGN 25) Class** **1 ship**

Displacement:	8,592 tons
Length:	565 ft.
Beam:	58 ft.
Max Speed:	30+ knots
Complement:	558

Destroyers

Support battle, surface action, amphibious, and replenishment groups. Destroyers are primarily used for anti-submarine warfare while guided-missile destroyers are multi-mission surface combatants.

***Arleigh Burke* (DDG 51) Class** **11 ships**

Displacement:	8,315 tons
Length:	504 ft.
Beam:	66 ft.
Max Speed:	32 knots
Complement:	303

***Kidd* (DDG 993) Class** **4 ships**

Displacement:	9,574 tons
Length:	563 ft.
Beam:	55 ft.
Max Speed:	33 knots
Complement:	339
Aircraft:	1 SH-2F (LAMPS)

***Spruance* (DD 963) Class** **31 ships**

Displacement:	8040 tons
Length:	563 ft.
Beam:	55 ft.
Max Speed:	33 knots
Complement:	334
Aircraft:	2SH-60 (LAMPS III)

Mobile Combat Logistics Force

MISSION: Provide fuel, provisions and ammunition to combatant ships at sea via underway and vertical replenishment. These ships are an integral part of carrier battle groups as fuel, ammunition and stores reservoirs.

Fast Combat Support

Redistribute petroleum products, ammunition, and stores from shuttle ships to carrier battle groups through connected and vertical replenishment.

***Sacramento* (AOE 1)**		**4 ships**
***& Supply* (AOE 6) Classes**		**3 ships**
Displacement:	53,000 tons	
	48,800 tons	
Length:	793 ft.	
	754 ft.	
Beam:	107 ft.	
	107 ft.	
Max Speed:	26 knots	
	25 knots	
Complement:	615	
	660	
Aircraft:	2 CH-46 *Sea Knights*	
	3 UH-46 *Sea Knights*	

Replenishment Oiler

Deliver petroleum and munitions simultaneously to carrier battle groups using both connected and vertical replenishment.

***Wichita* (AOR 1) Class** **2 ships**

Displacement:	41,350 tons
Length:	659 ft.
Beam:	96 ft.
Max Speed:	20 knots
Complement:	460

Ammunition

Deliver ammunition and stores, either independently or with other combat logistic ships, to combatants and/or battle group station ships using both connected and vertical replenishment.

***Kilauea* (AE 26) Class** **6 ships**

Displacement:	19,940 tons
Length:	564 ft.
Beam:	81 ft.
Max Speed:	20+ knots
Complement:	483
Aircraft:	2 CH-46 *Sea Knights*

Fleet Oiler

Transport bulk petroleum and lubricants from depots to underway battle group station ships, as well as combatants and support forces by alongside and vertical replenishment.

***Cimarron* (AO 177) Class** **5 ships**

Displacement:	37,870 tons
Length:	708 ft.
Beam:	88 ft.
Max Speed:	19 knots
Complement:	135

Combat Stores

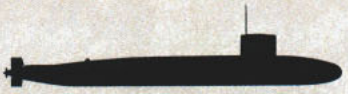
Conduct underway replenishment of refrigerated stores, dry provisions, technical spares, general stores, fleet freight, mail and personnel to operating forces by alongside or vertical replenishment.

***Mars* (AFS 1) Class** **5 ships**

Displacement:	18,663 tons
Length:	581 ft.
Beam:	79 ft.
Max Speed:	20 knots
Complement:	428
Aircraft:	2 CH-46 *Sea Knights*

***Los Angeles* (SSN 688) Class** **57 ships**

Displacement (submerged):	6,927 tons
Length:	360 ft.
Beam:	33 ft.
Max Speed:	25+ knots



Complement:	145

***Sturgeon* (SSN 637) Class** **20 ships**

Displacement (submerged):	4,960 tons
Length:	292 ft.
Beam:	32 ft.
Max Speed:	25+ knots
Complement:	107

***Benjamin Franklin* (SSN 640) Class** **2 ships**

Displacement (submerged):	8,250 tons
Length:	425 ft.
Beam:	33 ft.
Max Speed:	25+ knots
Complement:	143

Photo by PH3 Douglas L. Badders

Naval Ships

Amphibious Warfare Ships

MISSION: Carry assault troops and equipment to enemy beaches and serve as combat support platforms for these forces.

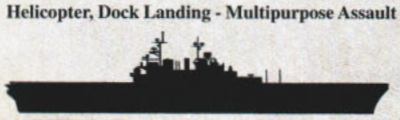
Assault Ships

Transport and land assault forces ashore by use of Landing Craft Air Cushion (LCAC), conventional landing craft, and helicopters.

Helicopter, Landing Platform - Amphibious Assault

***Iwo Jima* (LPH 2) Class**		**3 ships**
Displacement:	18,300 tons	
Length:	602 ft.	
Beam:	104 ft.	
Flight Deck Width:	104 ft.	
Max Speed:	23 knots	
Complement:	685 (crew)	
	1,746 (troops)	

Helicopter, Dock Landing - Multipurpose Assault



***Wasp* (LHD 1) Class**		**4 ships**
Displacment:	40,532 tons	
Length:	844 ft.	
Beam:	140 ft.	
Max Speed:	22+ knots	
Complement:	1,081 (crew);	
	2,074 (troops)	
Aircraft:	45 - CH-46 Sea Knight;	
	20 - AV-8B Harrier;	
	9 - ASW helicopters	

Helicopter, Attack Landing - General Purpose Assault

***Tarawa* (LHA 1) Class**		**5 ships**
Displacement:	39,967 tons	
Length:	834 ft.	
Beam:	131 ft.	
Max Speed:	24 knots	
Complement:	930 (crew)	
	1,703+ (troops)	
Aircraft:	9 - CH-53 Sea Stallions;	
	12 - Ch-46 Sea Knights;	
	10 - AV-8B Harriers (in LHA 2-5)	

Amphibious Transport, Dock

Transport and land Marines, their equipment and supplies by embarked landing craft or amphibious vehicles augmented by helicopters in amphibious assault.

***Austin* (LPD 4) Class**		**11 ships**
Displacement:	17,244 tons	
Length:	570 ft.	
Beam:	100 ft.	
Max Speed:	21 knots	
Complement	420 (crew);	
	930 (troops)	
Aircraft:	6 - CH-46 Sea Knights	

Amphibious Command

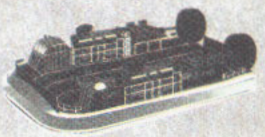
Provide amphibious command and control in major amphibious operations.

***Blue Ridge* (LCC 19) Class**		**2 ships**
Displacement:	18,372 tons	
Length:	637 ft.	
Beam:	108 ft.	
Max Speed:	23 knots	
Complement:	821	
Aircraft:	Utility helicopter	

Converted *Raleigh* (AGF 3)		**1 ship**
& *Austin* (AGF 11) Class Ships		**1 ship**
Displacement:	14,650 tons (AGF 3)	
	16,912 tons (AGF 11)	
Length:	519 ft. (AGF 3)	
	570 ft. (AGF 11)	
Beam:	84 ft. (AGF 3)	
	100 ft. (AGF 11)	
Max Speed:	20 knots (AGF 3)	
	21 knots (AGF 11)	
Complement:	440 & 59 Flag Staff (AGF 3)	
	516 & 120 Flag Staff (AGF 11)	

Landing Craft Air Cushion

Transport weapons systems, equipment, cargo, and personnel of the assault elements of the Marine Air/Ground Task Force from both ship to shore and across the beach.



LCAC		**80 craft**
Displacement:	182 tons	
Length:	88 ft.	
Beam:	47 ft.	

U.S. Navy photo

Coastal Patrol

Primarily provides coastal protection and interdiction. Also provides Naval Special Warfare Support, including long-range SEAL insertion/extraction and tactical swimmer operations.

***Cyclone* (PC 1) Class**		**11 ships**
Displacement:	328.5 tons	
Length:	170 ft.	
Beam:	25 ft.	
Max Speed:	35 knots	
Complement:	28 (crew)	
	9 (special ops)	

Max Speed:	40+ knots with payload
Complement:	5

Tank Landing

Transport and land amphibious vehicles, tanks, combat vehicles and equipment in amphibious assault.

***Newport* (LST 1179) Class**	**2 ships**
Displacement:	8,450 tons
Length:	522 ft.
Beam:	69 ft.
Max Speed:	20 knots
Complement:	290(crew)
	400 troops

Dock Landing

Support amphibious operations on a hostile shore via Landing Craft Air Cushion (LCAC), conventional landing craft and helicopters.

***Whidbey Island* (LSD 41) & *Harpers Ferry* Classes**	**8 ships 1 ship**
Displacement:	15,704 tons (LSD 41) 16,708 tons (LSD 49)
Length:	609 ft.
Beam:	84 ft.
Max Speed:	20+ knots
Complement:	342 (crew - LSD 41) 500 (troops - LSD 41) 419 (crew - LSD 49) 504 (troops - LSD 49)

***Anchorage* (LSD 36) Class**	**5 ships**
Displacement:	13,700 tons
Length:	553 ft.
Beam:	84 ft.
Max Speed:	22 knots
Complement:	374 (crew)
	366 (troops)

Mine Warfare Ships

MISSION: Clear vital waterways, such as choke points, harbors, and channels, of bottom and moored mines.

Mine Counter Measures

***Avenger* (MCM 1) Class**	**14 ships**
Displacement:	1,312 tons
Length:	224 ft.
Beam:	39 ft.
Max Speed:	13.5 knots
Complement:	81

Mine Hunter

***Osprey* (MHC 51) Class**	**1 ship**
Displacement:	895 tons
Length:	188 ft.
Beam:	35 ft.
Max Speed:	12 knots
Complement:	51

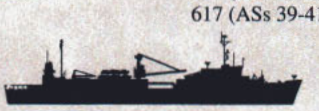
U.S. Navy photo

Tenders

Provide mobile base facilities for maintenance and logistic support to submarines and surface combatants.

***L.Y. Spear* (AS 36)** **2 ships**
***& Emory S. Land* (AS 39) Classes** **3 ships**

Displacement:	23,000 tons
Length:	644 ft.
Beam:	85 ft.
Max Speed:	20 knots
Complement:	605 (ASs 36 & 37)
	617 (ASs 39-41)



***Simon Lake* (AS 33) Class** **1 ship**

Displacement:	19,934 tons (AS-33)
	21,089 tons (AS-34)
Length:	644 ft.
Beam:	85 ft.
Max Speed:	20
Complement:	601

***Hunley* (AS 31) Class** **1 ship**

Displacement:	19,820 tons
Length:	599 feet
Beam:	83 feet
Max Speed:	19 knots
Complement:	612

***Yellowstone* (AD 41)** **3 ships**
***& Samuel Gompers* (AD 37) Class** **2 ships**

Displacement:	20,500 tons
Length:	644 ft.
Beam:	85 ft.
Max Speed:	20 knots
Complement:	1,681

Fleet Support Ships

MISSION: Provide repair, salvage and a variety of other types of support to the combatant fleet.

Rescue, Salvage & Towing

Provide rapid firefighting, dewatering, battle damage repair, and rescue towing assistance to save battle-damaged combatant ships in combat or high threat areas from further loss or damage; tow them to repair ships or bases located in safe areas.

***Safeguard* (ARS 50) Class** **4 ships**

Displacement:	2,880 tons
Length:	255 ft.
Beam:	51 ft.
Max Speed:	14 knots
Complement:	90

***Edenton* (ATS 1) Class** **3 ships**

Displacement:	2,929 tons
Length:	282 ft.
Beam:	50 ft.
Max Speed:	16 knots
Complement:	129

Military Sealift Command

The Military Sealift Command (MSC) maintains a fleet of ships which provides a variety of unique support missions to the fleet and other military services. These ships are primarily crewed by civilians with a contingent of U.S. Navy personnel.

Maritime Prepositioning

MISSION: Long-term prepositioning of land-based equipment and supplies in set locations worldwide. *(3 classes)*

Fast Sealift

MISSION: Rapid, worldwide deployment of tanks, helicopters and other military supplies and equipment.

Combat Stores

MISSION: Provide refrigerated and general stores, dry provisions, technical and aviation spares, fleet freight, mail, personnel and other items underway from five stations and with two H-46 helicopters.

Oilers

MISSION: Transport bulk petroleum products from shore depots to replenishment ships and combatants under way making task groups as independent as possible of limited freight, mail and personnel. *(3 classes)*

Tankers

MISSION: Worldwide delivery of petroleum products to DoD users and support of fleet operating units. *(3 classes)*

Aviation Logistics Support

MISSION: Dedicated fast sealift for movement of a functional aviation intermediate maintenance activity to support U.S. Marine Corps fixed and rotary wing aircraft.

Ocean Surveillance

MISSION: Tow the Surveillance Towed Array Sensor (SURTASS). *(2 classes)*

FBM Resupply

MISSION: Provide logistic resupply for submarines and submarine tenders deployed overseas and at East Coast refit sites. *(2 classes)*

Oceanographic Research

MISSION: Support naval oceanography research. *(3 classes)*

Oceanographic Survey

MISSION: Mapping and oceanographic survey of ocean floors and coastlines. *(5 classes)*

Cable Repair

MISSION: Transport, deploy, retrieve and repair submerged cables; tow acoustic projectors; cable plow; and conduct acoustic hydrographic and bathymetric surveys. *(2 classes)*

Auxiliary Crane

MISSION: Mobile discharge facility for non self-sustaining container ships in ports without operational container off-load capability.

Fleet Ocean Tugs

MISSION: Tow battle-damaged and otherwise non-operational fleet ships to safe ports; conduct salvage operations and support other special missions.

Hospital Ships

MISSION: Mobile, rapidly responsive afloat medical facility to provide acute medical and surgical care in support of amphibious and naval task forces in areas where hostilities may be imminent. Also provide a full hospital asset for use by other U.S. government agencies in support of disaster relief operations worldwide.

Dry Cargo

MISSION: Point-to-point cargo delivery service to MSC customers worldwide meeting requirements not normally covered by regularly scheduled commercial service *(wide variety of types and sizes).*

Ready Reserve Force

MISSION: A force of inactive ships to provide militarily useful transportation to meet wartime surge sealift requirements. Sources of RRF ships are commercial ships that are purchased through competitive procedures; ships from the near term pre-positioning force, which are upgraded to meet RRF standards; and ships removed from active MSC service. RRF ships are maintained in a 5-, 10- or 20-day readiness status.

U.S. Navy photo

Photo by PH3 David C. Lloyd

POWER AND PERFORM

AEGIS DESTROYERS are the key to the Navy's anti air, anti-ship, anti-submarine, and strike operations from the sea. Twenty-nine ***Arleigh Burke*** (DDG-51)-class AEGIS destroyers have been ordered through 1994 and current plans envision a total force of some 60 DDG-51s. They will join the 27 ***Ticonderoga*** (CG-47)-class AEGIS cruisers that are now in the fleet. Starting with DDG-79, new AEGIS destroyers entering the fleet will be Flight IIA ships with the following upgrades and changes: hangars and facilities for two multi-purpose armed helicopters, fiber-optic data multiplex system, and the Kingfisher modification to the SQS-53 sonar for mine detection and avoidance.

DDG-51 *Arleigh Burke*-Class AEGIS Destroyer

The DDG-51 guided missile destroyer will be the centerpiece of U.S. naval surface forces well into the 21st century.

CG-47 *Ticonderoga*-Class AEGIS Cruiser

The first class of AEGIS warships built by the U.S. Navy, *Ticonderoga*-class cruisers proved their combat effectiveness in the Gulf War.

Arleigh Burke (DDG-51) Class Flight IIA Characteristics

Displacement:	9,195 tons (full load)
Length:	509 feet 6 inches
Beam:	66 feet 11 inches
Draft:	30 feet 7 inches (navigational)
Propulsion:	4 gas turbines, 100,000 shaft horsepower, 2 shafts
Speed:	31+ knots
Range:	More than 4,400 nautical miles at 20 knots
Manning:	383 (32 officers, 251 enlisted; includes helicopter detachment)
Helicopters:	2 LAMPS Mk III
Missiles:	1 64-cell and 1 32-cell Mk 41 VLS (96 total missiles)
Radars:	AN/SPY-1D multi-function AN/SPS-67(V)3 surface search AN/SPS-64 navigation
Sonar:	AN/SQS-53C bow-mounted
Guns:	One 5-inch 54-cal Mk 45 dual-purpose gun Two 20-mm Mk 15 Phalanx Close-In Weapon Systems
Fire Control:	AEGIS Weapon System 3 Mk 99 illuminators with AN/SPG-62 radar
Torpedoes:	6 12.75-inch torpedo tubes (2 triple mounts)
Builders:	Bath Iron Works, Bath, Maine Litton/Ingalls Shipbuilding, Pascagoula, Mississippi

LAMPS Mk III Light Airborne Multi-Purpose System

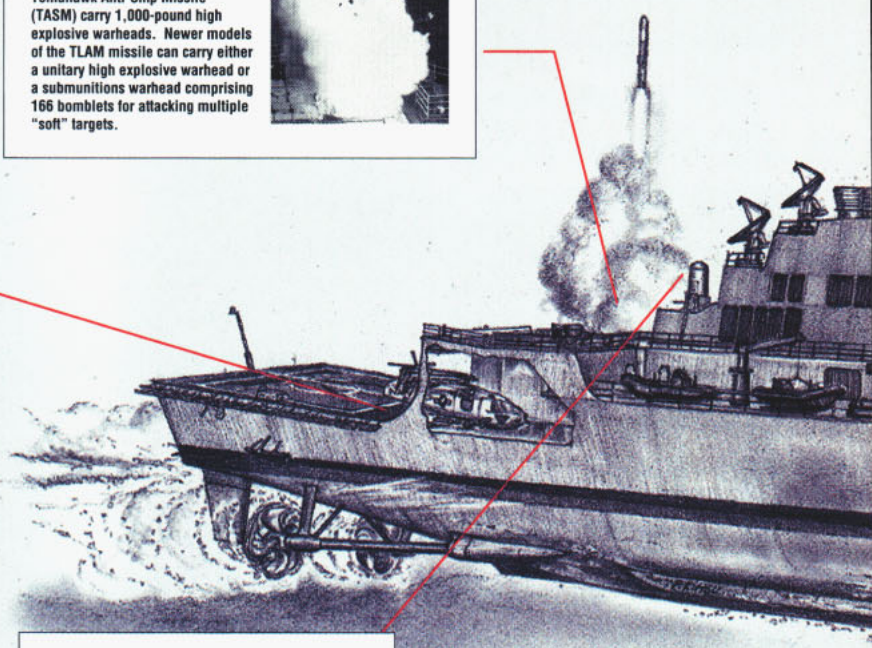
The SH-60B LAMPS Mk III ship/helicopter system extends the tactical reach and increases the effectiveness of the AEGIS warship. The LAMPS helicopter can launch torpedoes or air-to-surface missiles against enemy targets.

Penguin/Hellfire Missiles

Penguin is a short-range, anti-ship missile that can be launched by the SH-60B LAMPS Mk III helicopter. It is a "fire-and-forget" missile with advanced guidance features including indirect flight paths to its intended target and an infra-red (IR) guidance system.

Tomahawk

Tomahawk cruise missiles are a family of long-range weapons developed to strike land targets and surface ships. Both the Tomahawk Land-Attack Missile (TLAM) and Tomahawk Anti-Ship Missile (TASM) carry 1,000-pound high explosive warheads. Newer models of the TLAM missile can carry either a unitary high explosive warhead or a submunitions warhead comprising 166 bomblets for attacking multiple "soft" targets.



Mk 15 Close-In Weapon System (CIWS)

The Phalanx CIWS is a self-contained, rapid-firing gun system that can detect and destroy anti-ship missiles that have penetrated other ship defense systems. The six-barrel Gatling gun has a firing rate of 3,000 rounds per minute. Target engagement is performed automatically by a high-speed computer.

Flight IIA DDG-51 *Arleigh Burke*-class AEGIS Destroyer

ANCE FROM THE SEA

SPY-1 Radar

The heart of the AEGIS Weapon System in the *Arleigh Burke* destroyers is the SPY-1D multi-function, phased-array (fixed-antenna) radar.

SM-2 Standard Missile

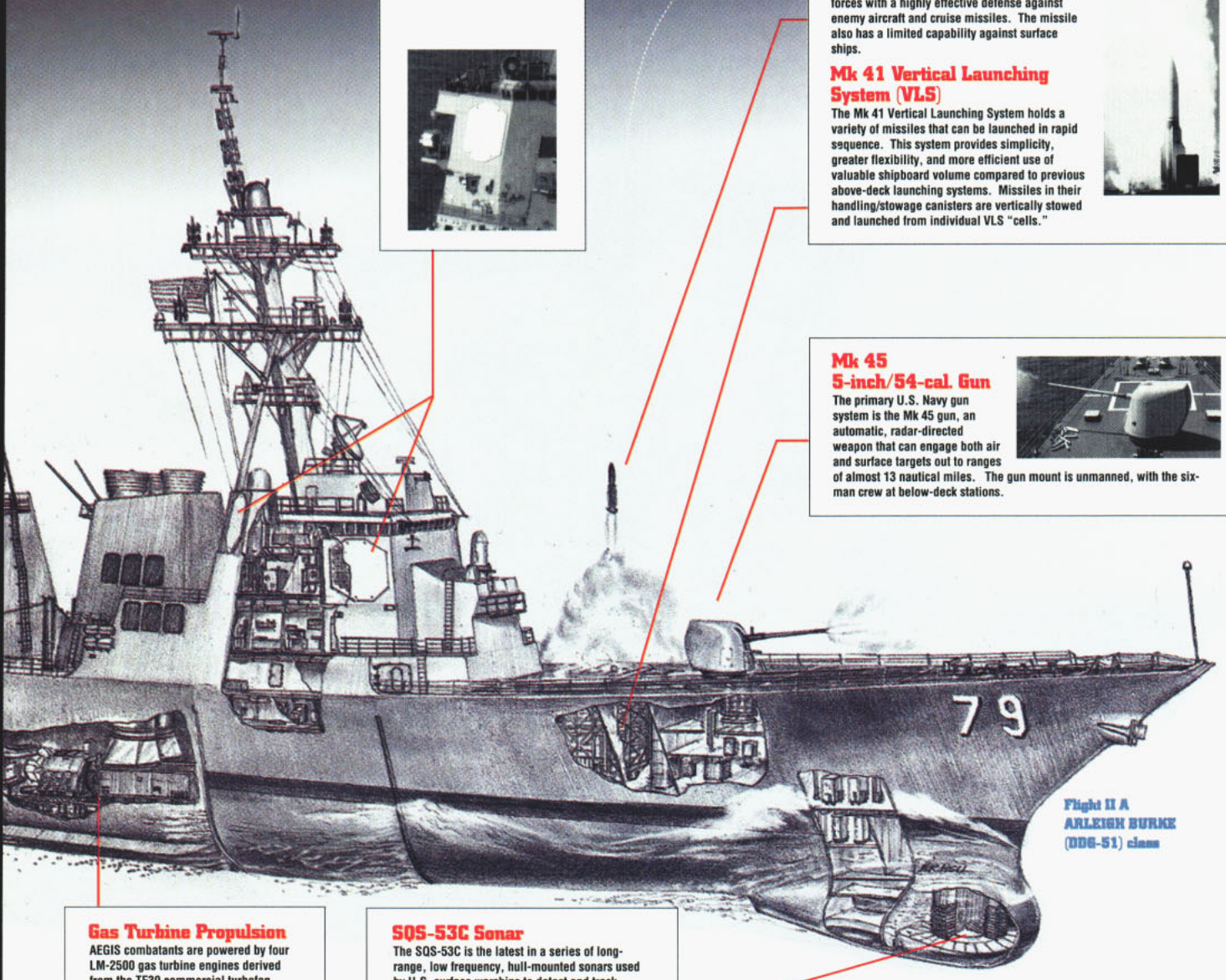
The Navy's Standard Missile SM-2 — used with the AEGIS weapon system — provides naval forces with a highly effective defense against enemy aircraft and cruise missiles. The missile also has a limited capability against surface ships.

Mk 41 Vertical Launching System (VLS)

The Mk 41 Vertical Launching System holds a variety of missiles that can be launched in rapid sequence. This system provides simplicity, greater flexibility, and more efficient use of valuable shipboard volume compared to previous above-deck launching systems. Missiles in their handling/stowage canisters are vertically stowed and launched from individual VLS "cells."

Mk 45 5-inch/54-cal. Gun

The primary U.S. Navy gun system is the Mk 45 gun, an automatic, radar-directed weapon that can engage both air and surface targets out to ranges of almost 13 nautical miles. The gun mount is unmanned, with the six-man crew at below-deck stations.



Flight II A ARLEIGH BURKE (DDG-51) class

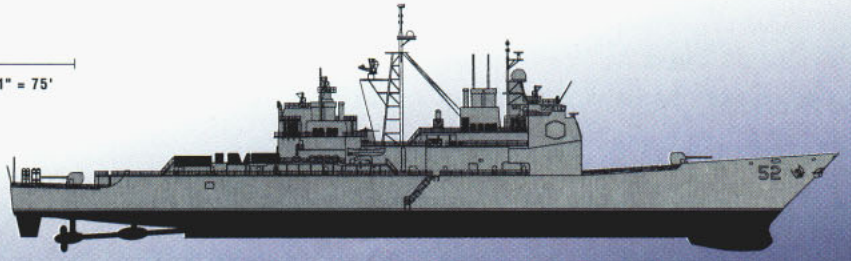
Gas Turbine Propulsion

AEGIS combatants are powered by four LM-2500 gas turbine engines derived from the TF39 commercial turbofan aircraft engine. Ship speed and direction are changed by altering the pitch of individual propeller blades rather than using complex reversing gears.

SQS-53C Sonar

The SQS-53C is the latest in a series of long-range, low frequency, hull-mounted sonars used by U.S. surface warships to detect and track submarines. The SQS-53C is being further upgraded to enhance its shallow-water capabilities and to allow its use for mine detection and avoidance.

1" = 75'



CG-47 *Ticonderoga*-class AEGIS Cruiser

Putting the squeeze on pollution

The Navy is reducing the amount of plastic waste it disposes at sea by more than 70 percent. Two new programs were designed to eliminate shipboard waste and create a more environmentally friendly Navy.

The first program, started in 1989, processes shipboard plastic waste by sanitizing and compressing the plastic into disks. The $22.5 million waste reduction program completed testing in November 1994 aboard USS *George Washington* (CVN 73). Installation of the plastic processors on board 200 ships is expected to be completed by 1998.

Compressing plastic waste into disks solves two problems: odor caused by storing plastic items contaminated with food is eliminated; and storage space for bulky, unprocessed plastic waste is reduced.

The plastic waste is transformed into disks at a 30-1 ratio and can be stored until the ship pulls into port. Ships returning to port will yield an estimated 10,000 pounds of compressed and melted disks per day when the processors are finally in place Navywide.

A second program is designed to eliminate plastic waste before ships get underway. The Plastics Removal in the Marine Environment (PRIME) program directs ships to off-load packing materials and excess plastics before leaving port. Shipping, packaging and storage requirements have also been changed to reduce the amount of plastics within the Navy's supply system.

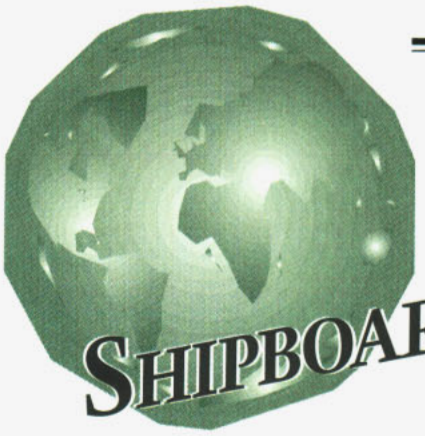
The PRIME program began many of the changes used in the fleet today. For example packaging requirements for hand tools are GONE! Plastic rings for soda six-packs have been ELIMINATED! There are many other initiatives Sailors are using to reduce plastics aboard ship. One includes using wet-strength paper bags and replacing styrofoam cups with 100 percent paper drinking cups.

Photo by PH2 Troy Hoagland

AN Tian Chen (left) and AN Brian Detrich (second from right) get a first-hand look at the future of shipboard plastic disposal. Civilian technicians Doug Vaughters and Mike Murnane hold a plastic disk produced by a Compressed Melt Unit plastic processor installed on board USS *George Washington* (CVN 73).

Sailors are also using new wiping towels that replace plastic-reinforced towels. By minimizing plastic packaging, the Navy estimates that more than 475,000 pounds of plastics are eliminated before they have a chance to go on board ships.

In addition to the plastic processors and conservation programs, the Navy is developing ways to recycle the plastic disks. ⚓



SHIPBOARD POLLUTION ABATEMENT

where we'll be in the year 2000... and beyond

Current waste	Where we're going
oily wastewater	oil and water separators with content monitors with effluent polishing
CFCs	substitute refrigerants and solvents, alternative cooling technologies
halon	alternative fire suppressants
plastics waste	heat/compact and hold, destroy on board
garbage	pulp before discharge, hold, destroy on board
hazardous waste	hold, destroy on board
air pollutants	air emissions control
trash	shred to sink or hold, destroy on board
medical waste	autoclave and hold, destroy on board
sewage	vacuum collection, destroy on board
graywater	concentrate, destroy on board

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– RADM A.J. Watson, Commander, NRC

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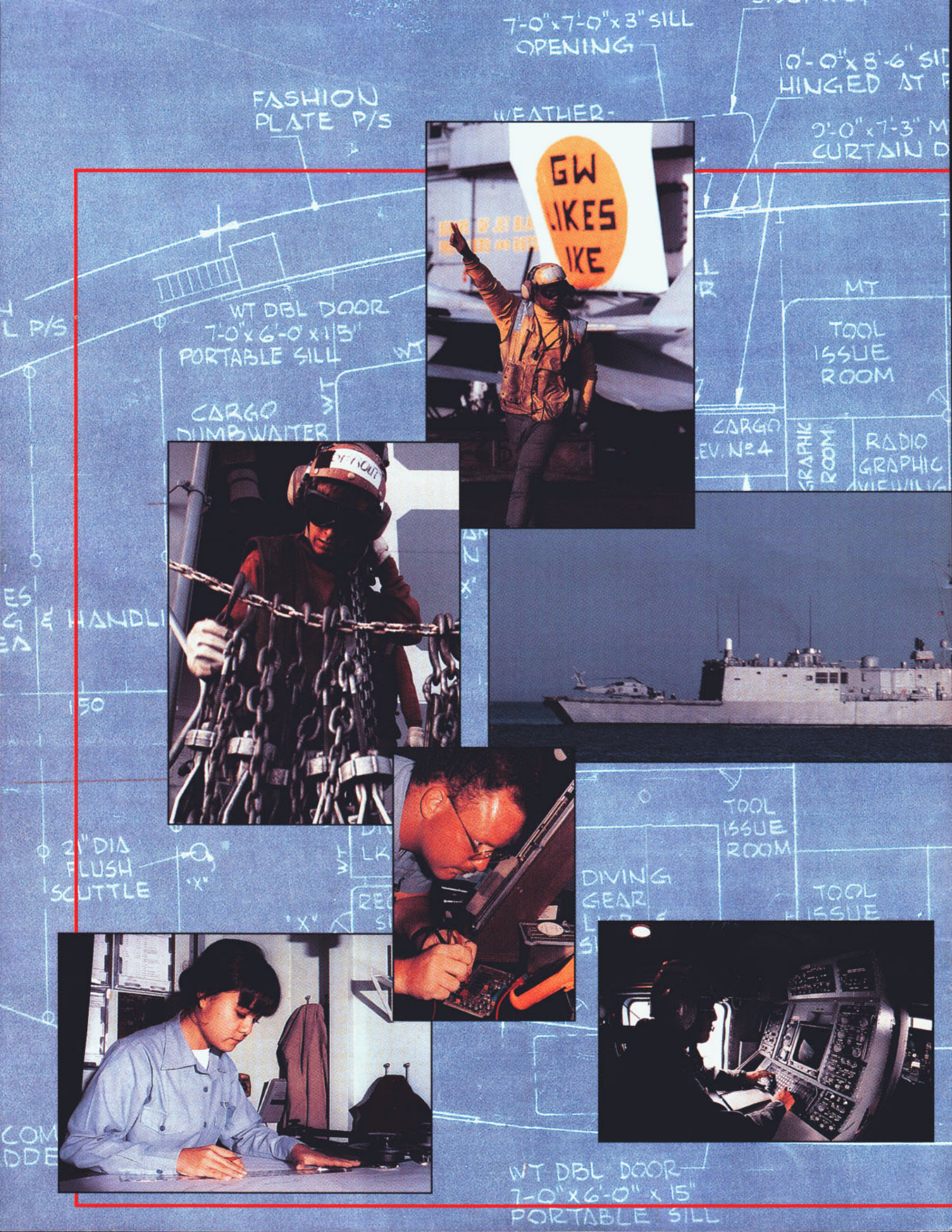
7'-0"x7'-0"x3" SILL
OPENING
FASHION
PLATE P/S
WT DBL DOOR
7'-0"x6'-0"x15"
PORTABLE SILL
CARGO
DUMBWAITER
MT
TOOL
ISSUE
ROOM
RADIO
GRAPHIC
ROOM
2" DIA
FLUSH
SCUTTLE
DIVING
GEAR
TOOL
ISSUE
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WT DBL DOOR
7'-0"x6'-0"x15"
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